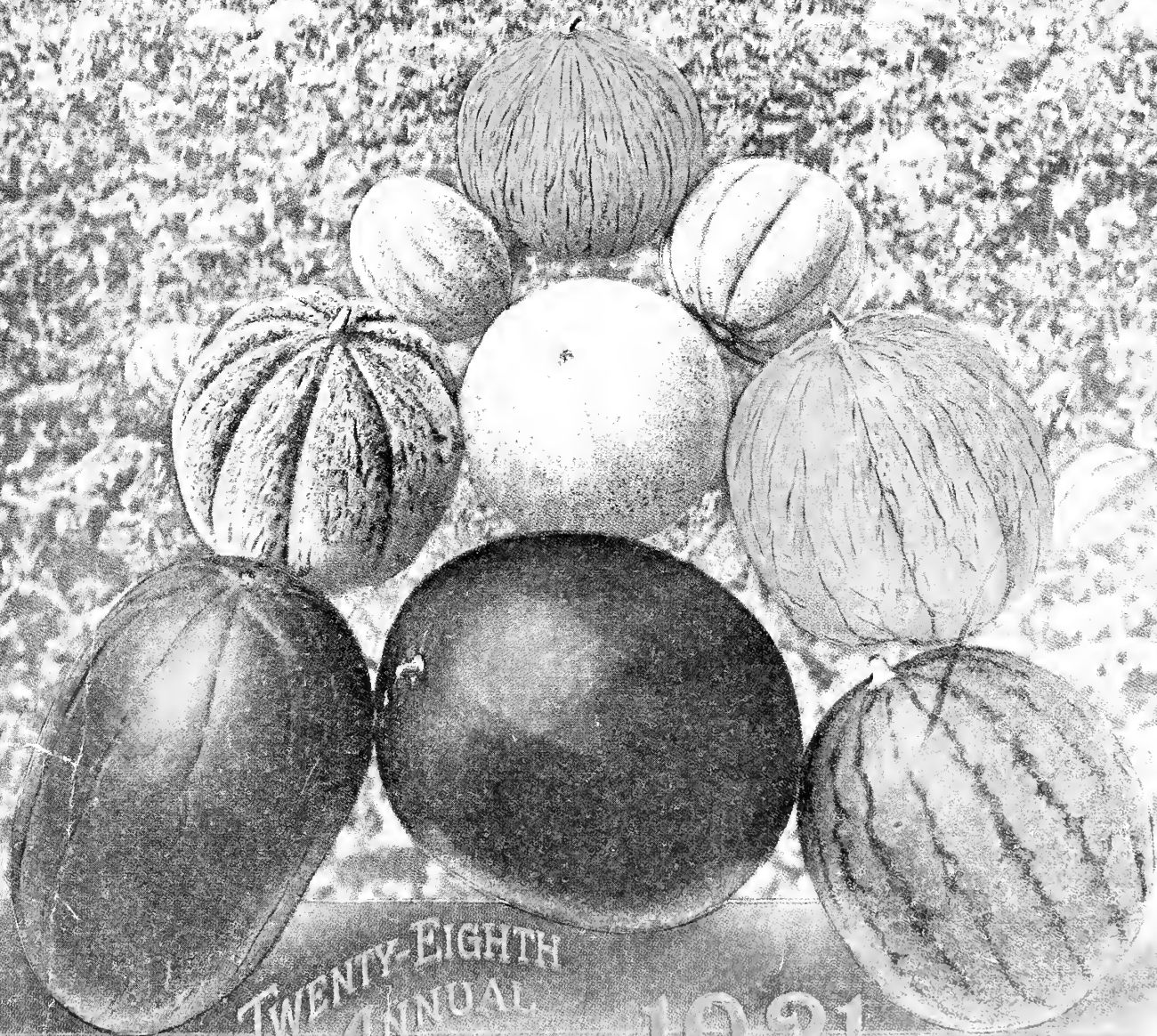


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AGGELER & MUSSER SEED CO. LOS ANGELES



TWENTY-EIGHTH
ANNUAL
CATALOG

1921

60875

MAIN 4115

HOW TO ORDER BY MAIL

YOUR NAME AND ADDRESS.—Be very sure that your name and address are written very plainly on each order. We frequently have orders where either name is not given or address omitted. Also give plainly the R. F. D. number and box, or the street address. We acknowledge all orders by a postcard if not filled immediately. If such acknowledgment is not received, or if the order does not follow at once, write us about it.

CASH WITH ORDER.—The proper way is to send remittance in full to cover order and postage. We send orders C. O. D. only if 25% of the amount of order is enclosed. Plants we never send out C. O. D.

ALL PRICES are subject to price fluctuation and to change without notice. For this reason we ask you to write for quantity price. On vegetable seeds the price is usually fixed for the season and rarely is it necessary to change from the catalog, and the prices will be consistent with the market. You will be treated fairly.

REMITTANCES should be made by Post Office Money Order, Express Money Order, or by Check. For amounts up to one dollar, clean, unused postage stamps will be accepted. Coin should not be sent by mail. Checks on local banks may be sent, which will be a great convenience to many customers. Checks from outside the state of California will be collected before the goods are shipped. Therefore if you would avoid delay, send bank draft or postal money order. We do not accept responsibility for orders which never reach us.

SHIPPING.—We will use our best judgment as to the best way of sending orders when specific directions are not given. On large "prepaid" orders it is better to have them go by express, if your town is on a railroad—it is safer. We prepay express charges on merchandise quoted "prepaid." If special directions in shipping are needed, send them explicitly, and where express or freight office is different from post office, so state in space on our order sheet.

SEEDS BY MAIL.—We send by mail or by express prepaid, all orders for flower seeds, and for vegetable seeds up to ten pounds. We do not pay postage or express charges on onion sets, field seeds, clovers, grasses, bird seeds, tools or plants in large quantities; but we do pay them on other vegetable and flower seeds. Correspondents in foreign countries should add a sufficient amount for postage at the rate of 12 cents per pound.

THE PARCEL POST APPLIES TO SEED.—Postal rates are as follows. Owing to the convenience of having mail brought to your door by the rural delivery system, it is well to take advantage of the low rates.

20 pounds anywhere within the city limits of Los Angeles for 15c.

20 pounds three hundred miles 24c, and 1c for each additional pound up to 70 pounds.

Nothing heavier than 70 pounds may be mailed farther than 300 miles in one package.

The Eighth Zone includes Mexico and Canada.

ZONE RATES.—When it is required that postage be added to the purchase price of any commodity, note the distance you are from Los Angeles, see in which Zone you live. It is then easy to estimate the exact amount of postage required, or ask your postmaster.

FOR PARCELS WEIGHING 8 OUNCES OR LESS, containing seeds, bulbs or books **only**, the rate of postage to all zones is 1 cent for two ounces or fraction. (Over 8 ounces the parcel post rates apply.)

DOMESTIC PARCEL POST RATES				Insurance extra, 3c for each package up to \$5.00, 5c up to \$25.00, 10c up to \$50.00				First pound or fraction	Each Additional Pound or Fraction
On Seeds, Plants, Bulbs, Roots, Books, Tools, etc. within the U. S. and Possessions									
First Zone, Los Angeles and within	50 miles	of	Los Angeles	.....				5c	1c
Second Zone	50 to 150	"	"	.....				5c	1c
Third Zone	150 to 300	"	"	.....				6c	2c
Fourth Zone	300 to 600	"	"	.....				7c	4c
Fifth Zone	600 to 1000	"	"	.....				8c	6c
Sixth Zone	1000 to 1400	"	"	.....				9c	8c
Seventh Zone	1400 to 1800	"	"	.....				11c	10c
Eighth Zone	all over 1800	"	"	.....				12c	12c

FOR PARCELS CONTAINING FOURTH CLASS MATTER—other than the above—up to four ounces is permitted to all zones at 1 cent per ounce. (Over 4 ounces the above zone rates apply.)

NON-WARRANTY: Note—There are so many contingencies to be encountered in growing plants from seed and in setting out plants that are dependent on the weather and other conditions over which we have no control, that success in planting is not altogether dependent on the seed or plant. We will send out only seed which we believe will grow and produce the kind of plant and variety represented, but:

Aggeler & Musser Seed Co. give no warranty, expressed or implied, as to description, quality, productivity, or any other matter of any seeds, bulbs, plants or trees they send out, and they will not be responsible in any way for the crop. If the purchaser does not accept the goods on these terms, they are at once to be returned.

AGGELER & MUSSER SEED CO.

January, 1921.

H. L. Musser
Our President since our
incorporation in 1896

E. A. Aggeler
Our Vice President and Manager since
our reorganization in 1905

W. B. Early
Our Secretary and Treasurer
since 1905

Twenty-Eighth Annual Catalog of the **AGGELER & MUSSER SEED COMPANY**

ESTABLISHED, 1893—INCORPORATED, 1896

ATTENTION!

From the start our business never took a backward step. Our customers of twenty-five years ago are among the best friends we have today. Once a customer always a customer has been our aim, the constant and enormous increase in our business is evidence that our policy of making friends by giving reliable seeds, courteous attention and liberal information has succeeded.

It is our purpose to more than ever increase our efforts to safeguard our customers against crop failures.

In this catalog is printed ample information for the beginner and newcomer and under each subject reference is given where further information may be obtained. We also publish circulars and bulletins on special subjects. Therefore by this system of education, the only excuse left for inefficiency is the failure of the grower to avail himself of the opportunities for information here directed to his attention.

We go to the expense and no little trouble to put this catalog into your home expecting you will at least read the subjects in which you are interested.

Therefore if you are interested in growing lettuce, onions, potatoes, cabbage, cauliflower, or tomatoes, read the pages devoted to these subjects.

But whether directly interested or not you may miss some important hint or information if you fail to read every notation.

1920 OUR BANNER YEAR

The volume of business during the year of 1920 was greatly in excess of any previous year. This indicates that a prosperous condition prevails in the southwest.

We have received fewer complaints of crop failures, which is the result of better education and the reliability of our seeds.

WHY OUR SEEDS ARE RELIABLE: We grow what we can under our own supervision from our own pedigreed seed-stock.

What we cannot grow under our own supervision we purchase by contract from professional growers whose reputation must be maintained.

When there is a great scarcity of seed we inspect local fields and if one is found to be satisfactory we purchase it.

We do not buy seeds unless we know from what seed stock and under what conditions they have been grown.

We do not accept seeds returned, nor do we buy seeds from inexperienced growers because of the element of chance.

Our seeds are Reliable because they are pedigreed as far as it is possible to have them so.

Our customers succeed because of the instructions in our catalog which go with "A&M RELIABLE SEEDS."

If you want next years catalog mailed to your address as soon as published, send by mail at least one small order, that your name will remain on the list. When we get no order the name is taken off believing you have changed your address. Catalog and postage are expensive and must not be wasted!



Home of our Office, Main Store, and Mail Order Dept., 620 So. Spring St., just one block from the Pacific Electric Bldg.
Floor Space, 20,000 sq. ft.

Our Office

Our office force continues under the capable management of Mr. W. B. Early who has been with us since 1905. He has the direction of an average of twenty assistants, experts in their particular line of work.

These clerks accomplish the enormous amount of work required, with the aid of the Mechanical Bookkeeping Machine and all time and labor saving machinery.

EFFICIENCY IS THE AIM OF ALL EMPLOYEES

Each department is capably managed by experts who have had many years of experience in their particular line of work.



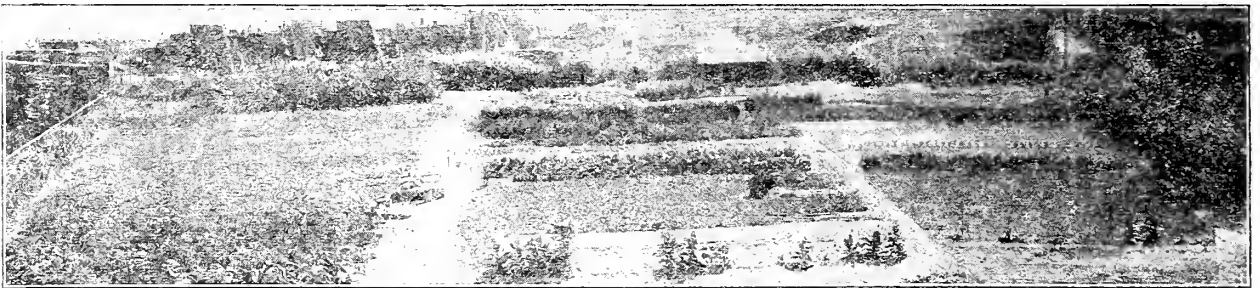


Our Warehouse and Mill at 1934 East 15th Street

Size of Warehouse 110x230

Size of Mill, 60x60

Our new cleaning mill is equipped with the very latest machinery for cleaning all kinds of seeds. There is no excuse for unclean seeds going from our warehouse. If you receive such seed you do us a favor if you report at once, that the fault may be corrected before it passes to others.



At the rear of our warehouse we have a garden which is very valuable for trying out seeds for germination and types also to demonstrate to our employees and customers the reliability of our seeds.



SAFEGUARDS AGAINST CROP FAILURES
Mills of Every Size
Cleaning Small Seed in the Stock Room
All Peas and Beans Are Hand-Picked

COMPLIMENTARY

"I am in receipt of your 27th annual catalog, 1920; and I thank you for being remembered. Your catalogs are different from a great majority of catalogs from Seed Houses. They do not run from year to year in the same old stereotype form, but always contain something new and interesting. I file them away as carefully as I do one of my business letters that I want to follow up and refer to frequently. Many times I think that I want to go into the truck game myself, and your annual catalog always whets this inclination.

"H. H. HARRINGTON, Agricultural Director, Gulf Coast Lines."



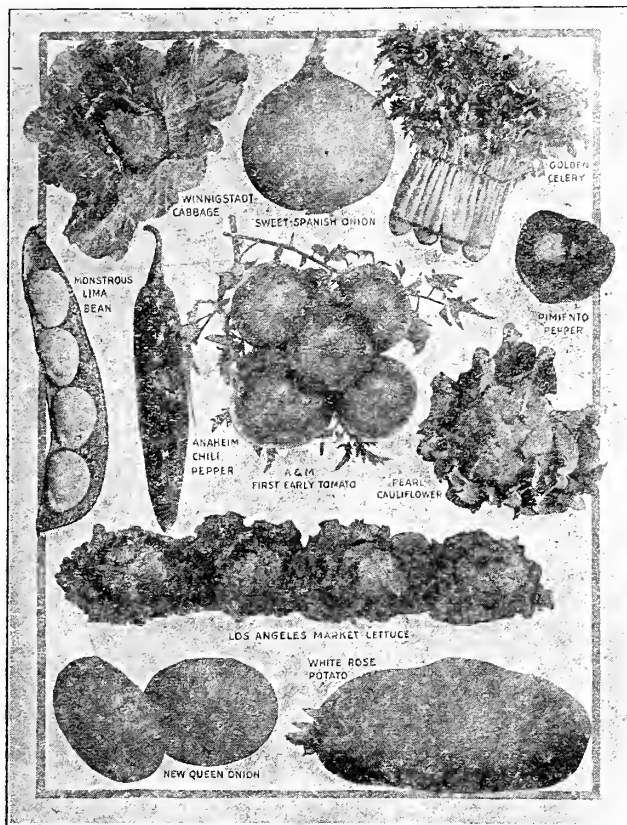
For Testing Seeds

We have with us a graduate from the agricultural college at Davis, whose duty it is to test all seeds when they come to us and again in six months a general test is made. You can write us at any time for a germination test on any seed you contemplate buying.

Read This

A GOOD START WINS HALF THE BATTLE; so does GOOD SEED mean half the success. Many a good gardener will save seed from his best vegetables or melons thinking he will have the same good crop next season. But he did not notice that in his garden he has all varieties of vegetables growing in close proximity, and he is surprised to find that the seed from his best vegetables are producing mongrel crops. A professional seed grower avoids any hybridizing of kindred crops. That is why a Reliable Seedsman must refuse to buy seeds except from expert seed growers. A Reliable Seedsman will know the pedigree of his seeds.

But the expense and loss connected with cleaning seed, making it pure, building up a high percent of germination by eliminating often as much as one-half, together with the expense of putting it into small containers for distribution, necessarily advances the cost. Reliable Seeds are not to be compared with commercial seeds sold by mills, produce dealers, grocers and farmers for consumption. They are not expected to know one variety from another. Reliable Seed is half the crop; the prices in this catalog are not too high.



Worth, \$20,000,000 annually

The annual value of these items alone is nearly equal to the combined value of all other vegetables grown in the county.

LOS ANGELES COUNTY The Richest Agriculture County in the United States

According to the reports published by the U. S. Department, Los Angeles County shows the highest valuation of agricultural exports of any county in the United States.

The assessed valuation of the county is \$1,030,236,824; the value of the agricultural products for the year 1919, based chiefly on railroad records, is estimated at \$426,045,843, of which sum \$40,000,000 represents vegetables only.

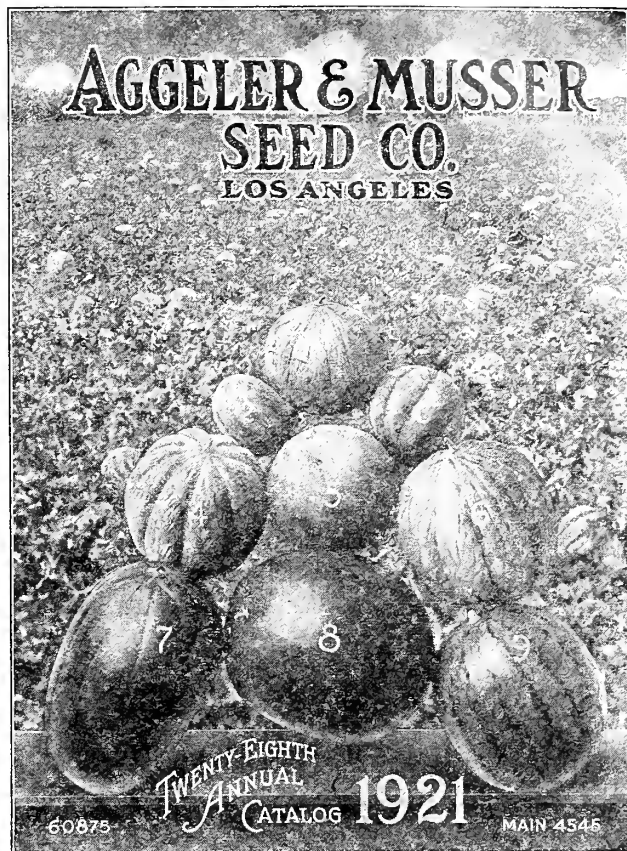
The vegetables pictured on this page represent an annual revenue to the growers of the southwest above \$20,000,000.00. According to the following figures compiled from railroad records by the Agricultural Department of the Los Angeles Chamber of Commerce for the year 1919, there was shipped from the territory adjacent to Los Angeles:

Cabbage to the value of...	\$1,080,000	mainly Winningstadt
Cauliflower	800,000	all Pearl
Celery	300,000	all Golden
Chili Pepper	1,000,000	{ 1/2 Anaheim Chili 1/2 Mexican Chili
Tomatoes	2,500,000	{ 2-5 A & M First Early 3-5 Stone
Onions	500,000	all Bermuda
Potatoes	5,000,000	{ 3-5 White Rose 2-5 Other varieties
Lettuce	6,000,000	all L. A. Market
Pimiento	1,000,000	
\$18,180,000		

It would be very conservative to estimate that home markets absorb one-third as much more and that outside points export fully one-third as much, bringing the total annual valuation of the vegetables up to \$30,000,000.00, two-thirds of which is derived from the above varieties.

There are many other big money-makers of local notoriety like Oregon Evergreen Sweet Corn, Queen Onion, Monstrous Lima Beans, Sweet Spanish Onion, Chinese Cabbage, Chinese Giant Pepper, Nancy Hall Sweet Potatoes and Banana Squash, all of which we introduced, bred up and acclimated. We consider it our personal obligation to keep these strains pure.

When you see these big money makers you think of Aggeler & Musser Seed Company because they are intimately identified with their introduction.



ALL BIG MONEY MAKERS.

- No. 1—Golden Beauty Casaba.
- No. 2—Burrell Gem Muskmelon.
- No. 3—Tip-Top Muskmelon.
- No. 4—Hybrid Casaba.
- No. 5—Armenian or Persian Melon
- No. 6—Golden Hybrid Casaba.
- No. 7—Klondike Water Melon.
- No. 8—Angeleno Water Melon.
- No. 9—Chilian Water Melon

All Favorites.

See Description.

Melons, like styles and fashions; popular awhile and soon forgotten. But, unlike styles and fashions, that come and go regardless of any other good quality, melons will hold their popularity so long as they are not superseded by something better.

The melons shown in the above picture represent the popular melons on the local market for many years.

Of the group the **Chilian Watermelon** has retained its popularity for the longest period having been introduced by us in 1893. It is yet very popular because of its earliness and popular size, but has been superseded by the Klondike in excellence of flavor.

The **Angeleno** was introduced by us in 1908. Read our description of it in this catalog.

The **Klondike** was introduced by us in 1910. It is now the most popular melon in Southern California.

The **A. & M. Hybrid** was introduced by us in 1903. It is the best of all melons if eaten when in its prime condition. See description in our catalog.

The **Golden Hybrid** is the same as the above with a golden yellow rind which adds much to its popularity.

The **Golden Beauty** was introduced by us in 1908. In 1914 more than one thousand carloads were shipped from Central and Southern California.

The **Tip Top** was first offered by us in 1905 and is now the most popular muskmelon with local consumers.

The **Rocky Ford** is the popular shipper.

The **Burrell Gem** is one of the popular local melons because of its desirable size for the cafeteria.

The **Armenian**, also called Persian melon. Our apology for introducing this melon under the name of Rules Choice is here quoted from our 1912 catalog. "We would not add to our numerous list of melons unless we were sure we had something better than all the others. Its yellow flesh and aromatic flavor will insure its popularity. We do not hesitate to advise market gardeners to plant it largely."

The Consumer will prefer it to others after tasting this. See description in our catalog.

Some Reasons Why You Should Be a Successful Agriculturist

With Agriculture taught in the elementary schools, demonstrated by practical gardening. With students of the high schools doing actual farming in all its phases of agriculture including animal husbandry and tractor work. With your county farm advisor at your call. Your State University offering free a six weeks' course in agriculture or a course in any particular branch of agriculture. Or if you cannot spare the time to go to college, the education will come to you by correspondence.

Send to the University of California College of Agriculture, Berkeley, California. Ask for circular No. 113 entitled Correspondence Courses in Agriculture, by W. G. Hammel. This circular contains a list of Bulletins and Circulars on other subjects.

In addition to all this the United States Department of Agriculture offers you free of charge, literature on almost any conceivable subject in which you may be interested.

Farm Bureau

As soon as you read this, send \$2.00 to your County Farm Bureau and become a member without further delay. You are missing something worth while. The Farm Bureau Monthly that comes to you free is worth many times the price of membership.

WHY YOU SHOULD BELONG TO THE FARM BUREAU:

- 1.—Because you get more real agricultural education for your investment than from any other source.
- 2.—You can get it, when you want it, on any agricultural subject in which you may be interested.
- 3.—When insects are destroying your garden, when your plants are dying from disease, your farm advisor will tell you what to do.
- 4.—When your poultry or livestock are sick, consult your farm adviser.
- 5.—With the aid of the Farm Advisor you should have the best of everything whether it be livestock or crops of any kinds.
- 6.—You can get advertising, and much assistance in marketing your crops.
- 7.—You are co-operating with approximately one million members of the American Farm Bureau Federation, all working to better conditions for the real farmer.

Agricultural Journals

For a small annual subscription you may get the following Agricultural Journals, all published in Los Angeles, California, except the Pacific Rural Press:

- California Cultivator, weekly; \$1.00 per year.
- Farm & Tractor, weekly; a part of the Los Angeles Times.
- Rural World, semi-monthly; 50c per year.
- Orchard & Farm, monthly; \$1.00 per year.
- Pacific Rural Press, weekly; \$1.00 per year (San Francisco).

These Journals put before you in an interesting way all the agricultural news up-to-date. They publish reports of commodities which are highly instructive, and very often the information you need. Read them carefully and you will find in season many solutions to your daily trouble. The advertising columns may sell your products or show you where to buy.

Send at once for one or more of these Journals; they are too valuable to ignore.

Seed Catalog

You also have thrust upon you without cost the annual seed catalog which helps you out where all else fails. It tells you in a nutshell what to plant, when, where and how to plant it, and most important of all, your seed catalog tells you where to buy the most reliable seeds for each particular condition of soil, climate, and market. There is positively no excuse for inefficiency.

Do You Want This Catalog

Be sure and send us an order for seeds if you want this catalog next year. If you do not send us an order your name is taken from our mailing list believing you have changed your address, or you may have come to the store where you can get a catalog at the counter. We prefer to have you on our list as an annual customer; then you will always get our catalog as soon as it comes from the press.

WHEN YOU CHANGE YOUR ADDRESS NOTIFY US IF YOU WANT THIS CATALOG.

Agricultural Books

	Price	Pstpd.
A. B. C. of Agriculture, by Weld.....	\$.50	\$.55
Alfalfa, by Coburn .....	.75	.85
Art of Propagation, by Jenkins.....	.25	.30
Asparagus, by Hexamer.....	.75	.85
Bean Culture, by Sevey .....	.75	.85
Bermuda Onion .....	.25	.30
Cabbage & Cauliflower, by Allen .....	.75	.85
California Fruit and How To Grow It, by Wickson	4.00	4.15
California Vegetables, by Wickson.....	2.00	2.25
California Garden Flowers, Shrubs, Trees and Vines	1.50	1.70
Second 1000 Questions in California Agriculture Answered, by Wickson.....	1.50	1.70
Campbell's Soil Culture Manual, 350 pages....	2.50	2.75
Campbell's Soil Culture Primer, 100 pages....	.50	.60
Cereals in America, by Carleton.....		3.25
Celery Culture, by Beattie.....	.75	.85
Clovers and How To Grow Them, by Shaw....	1.65	1.75
The Corn Crop, by E. G. Montgomery.....		2.25
Chrysanthemums, by Herrington .....	.75	.85
Date Growing, by Popenoe.....	2.25	2.40
Farm Grasses of the United States, by Spillman	1.60	1.75
Flax Culture .....	.30	.35
Forage Crops Other Than Grasses, by Shaw....	1.60	1.75
Wild Flowers of California, by P. B. Kennedy.	1.50	1.70
Forage Plants and Their Culture, by Piper....		3.10
Garden Helps, by Hall .....	.75	.85
Ginseng, Kain's Book on .....	.75	.85
Grasses and How To Grow Them.....	2.00	2.10
Injurious Insects, by Semper .....	.50	.60
Insects and Insecticides, by Weed	1.60	1.75
Irrigation Farming, by Wilcox	2.00	2.20
Irrigation for the Farm, Garden and Orchard, by Stewart	1.50	1.70
Making a Living on an Acre, by Ritchey.....	.25	.35
Mushroom Culture, by American Spawm Co....	.35	.40
Mushrooms and How To Grow them.....	1.50	1.65
New Onion Culture, by Grenier .....	.75	.85
Peanut Culture, by B. W. Jones.....	.75	.85
Potatoes, by Fraser	1.00	1.15
Pruning Manual, by Bailey.....	2.00	2.20
Rhubarb Culture, the New, by Morse & Fiske.	.75	.85
Soils, by Burkett	1.25	1.40
Soils and Commercial Fertilizers (Illustrated), by Lyon	1.50	1.65
Spraying Crops, by Weed .....	.75	.85
Strawberry Culture, by A. S. Fuller .....	.40	.50
Sweet Potatoe Culture, by Fltz .....	.75	.85
Talks on Manures, O. by J. Harris	1.75	1.90
Tobacco Culture .....	.25	.30
Tomato Culture, by Tracy .....	.75	.85
Wheat, by	1.50	1.70

Monthly Bulletin

If you would have up-to-date information in horticultural send your name and address to the Department of Agriculture, Sacramento, California, asking that your name be put on the list to receive the monthly bulletin.

We believe that every farmer should continue to do his best to bring his farm up to its fullest productivity and that in doing this he should exercise his best judgment in determining the crop that his lands will best produce and then grow that crop whether it be wheat, alfalfa, sugar beets, rice, beans or vegetables. The proper preparation and cultivation of the soil go very far toward insuring success.

Following the proper preparation of the soil every farmer should have reliable seed to further insure success. We aim to give the farmer seeds that can be relied upon to make success complete.

Success is more certain if the seed be selected to suit the soil, season and purpose. This catalog will help you make the proper selection.

Thanks to the excellent work done by the U. S. Department of Agriculture, and the various State Colleges of Agriculture, science is now being applied to our arable lands which has increased the acreage yield of some crops as much as 25% with an average gain all along the line of 16%.

Much more is promised when the American Farm Bureau Federation gets down to co-operative team-work.

At the Vegetable Growers' Assn. convention in Columbus, Ohio, the following resolution was passed:

JOIN THE FARM BUREAU

"Resolved, That the Vegetable Growers' Association of America express itself as being heartily in favor of the American Farm Bureau movement and, believing that this movement will operate to the benefit, not only of producers and consumers, but of the country at large, the Association urges that all vegetable growers join their local County Farm Bureaus, and that all local and state vegetable growers' associations co-operate in the movement."

THE HOME GARDEN Is the Nation's Greatest Asset

It has often been said, "A man in his own home is a contented man." We would revise this statement to read, "A Man In His Own Home Garden Is a Contented Man." The man without a garden may be seen at the baseball game, or on the golf-links, or joy-riding, or engaged in some other way of getting recreation and exercise at more or less expense, and with some regret; but the man with a Home Garden gets more joy, more recreation and exercise at no expense, no regret, but always some reward in the supply of good fresh vegetables, beautiful flowers, a home to be proud of, and a comfortable bank account with the money saved.

Figure it out for yourself: It is a very conservative estimate that every home garden fifty feet square can by intelligent tillage produce \$100.00 worth of vegetables each year. Fifty thousand gardens in the city of Los Angeles can easily produce \$5,000,000 worth of good healthy food and give good healthy exercise, recreation and contentment, to 200,000, or more, people, and save another \$5,000,000, or much more, annually, of money that would be spent seeking exercise and recreation of doubtful pleasure that is often followed by regret.

If these figures apply to the city of Los Angeles alone, what gigantic total would be summed up for the nation.

The small home garden should give healthful exercise, produce good food, reduce the cost of living, and save money for millions of contented people.

Yes, THE SMALL HOME GARDEN is the Nation's greatest asset, and within the reach of all.

THE FIVE AND TEN-ACRE MAN "The Little Lander"

Is the Contented Man Today

A very comfortable living can be acquired on a small acreage where one man, aided by his good wife, and perhaps children, by doing all the work thereby avoid paying an unproportionate share to incompetent indifferent and wasteful help which is so annoying that it takes all the joy out of what would otherwise be a contented living.

The Little Lander should be a specialist. He never produces more than he can personally dispose of, and to specialize means to become expert in any certain line.

We suggest as sure money-makers for the Little Lander, if soil conditions are favorable, the Carolina Strawberry; you have two chances for profit: one on the berries, another on the plants, coming at different seasons, so that both may be easily handled.

One-half acre of Roselle is profitable; the harvest time is in September and October.

If you can sell by the wayside, a collection of vegetables and melons may prove profitable. If in frostless sections, early and late beans, tomatoes, squash, cucumbers and sweet corn should pay well.

Many Little Landers are making a living from an acre of ground. This is done by keeping poultry, rabbits and goats—along with intelligent gardening. For first-hand information see:

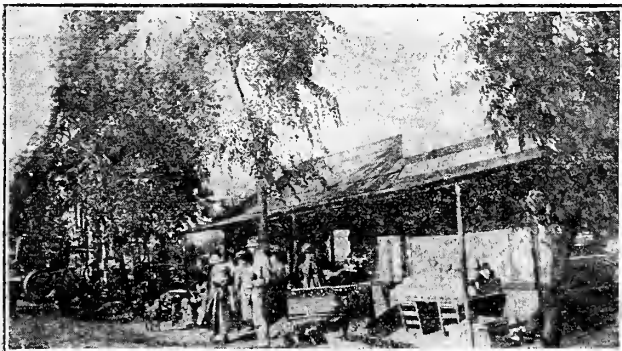
Mrs. M. N. Jackson, Figueroa and 120th st, Los Angeles, Calif.; Box 755, Rt. 4, Los Angeles.

Also Mr. Geo. M. Veile, Inglewood, Calif.

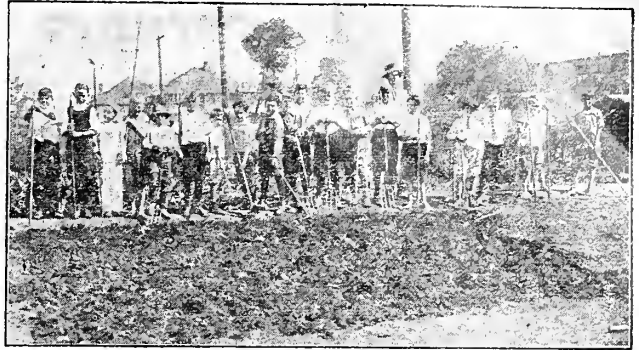
Marketing the Small Crop at Home

If your garden is by the highway, your marketing question is solved, but you cannot build up a dependable trade with the offer of something now and then; have something all the time. Have your neighbors co-operate with you in growing something the year 'round so that the customers who daily pass your place may depend upon you for their regular requirements.

By this method one Wayside Market Gardener has built up a volume of business that averages more than \$100.00 daily. But this was at a very favorable location. See what you can do!



Wayside Market



Magnolia Street School

Write Department of Agriculture, Washington, D. C., for Farmer's Bulletin No. 936, "The City and Suburban Vegetable Garden."

Write Department of Agriculture, Washington, D. C., for Farmer's Bulletin No. 255. Also No. 818. They are free.

Thanks to the very commendable work of agriculture now directed at the public schools throughout the country, we look to see better conditions prevail in the homes.

The teacher of Agriculture in the public schools will do more for the betterment of humanity than any other branch of education.

Many a capable man with good intentions would have a garden if he only knew the simplest "first aids" to gardening. The next generation will know, and because they know, their homes will be more beautiful, and they will be more prosperous, for a good garden will supply possibly all and more vegetables than the family will consume. A very small plot of ground will do wonders toward giving the family more and better vegetables, besides reducing greatly the cost of living, and making better men and women of our boys and girls.

To encourage this kind of improvement for country homes, that life may be more enjoyable to the newcomer, unaccustomed to the solitude—

To encourage the city wives and daughters to transform unattractive homes into beautiful cozy spots that may well be the envy of their more wealthy neighbors, (such beauty spots always proclaim louder than words the refinement and culture of the people living therein),

To encourage the more youthful members of the household and to co-operate with the teachers where gardening is taught—

It is to aid this work that we have made of this catalog a veritable encyclopedia for the gardener and rancher.

A good Home Garden will do more to help lower the high cost of living than any other agency. The benefit quickly follows the planting time and is constant throughout the year, besides giving healthful and enjoyable recreation to the entire family.

Get busy with your garden at once!

The Seed Catalog

From Farm & Tractor

There never was a time more urgent for a home garden. With the California spring, more glorious than the June of the other coast, comes the seed catalogue. It is thrust upon the attention of city dweller and farmer through the medium of the mails. It does not come with a flourishing of trumpets, but what visitor is more welcome? It is the herald of planting time. It calls Californians to the garden patch at a time when easterners are expecting another hard snowfall. Once the seed catalogue is opened we are seized with an uncontrollable desire to dig and delve and plant and nurse along the tender plants until they adorn the table. It is like a call to the trout stream. One does not feel sure of a full creel when he turns streamward. It is not all of fishing to get fish. And it is not all of gardening to eat the deliciously fresh vegetables, the fruit of the gardener's toil. The joy of producing is there. Exercise in the open, with added health, is a consideration in planting a garden.

The seed catalogue is a valuable compendium of information on how, when and what to plant. It is the result of years of effort on the part of the seedsman. He tells you what varieties do best in this section. The seed catalogue, if taken seriously by the home or farm gardener, will help in raising better crops and in supplying the table with garden produce the year around. Complete cultural directions are found within its covers. It points the way to cheaper food, lower living costs and beckons the man with a piece of tillable ground back to the soil.—Farm & Tractor.

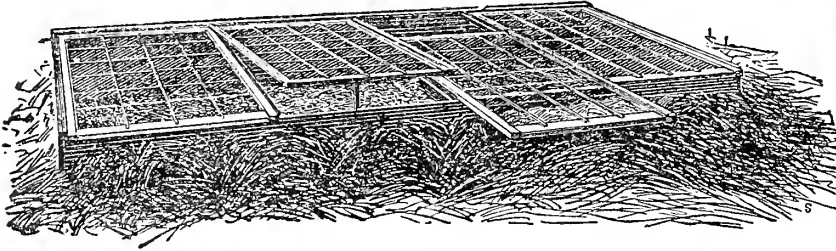
COMPLIMENTARY

"Your catalog was received a short time since. Thank you very much; it is a joy and an inspiration to do your best and have the best to do with. Please send a copy of your catalog to Mr. Howe. I feel sure he will find that you have many things he needs as he is always cultivating land to some extent. Again thanking you.

MRS. KATE NEVINS, Contra Costa County, Cal."

The Primer of Agriculture

The instructions on this page and next are so essential to the amateur and the new-comer that we repeat them from year to year. But each year brings out some new phase of agriculture, much of which we include in these columns; therefore, the reader will find something worth while that did not appear in last year's catalog.



Hot Bed

Every garden should have a hot bed in a sunny corner for the purpose of raising plants for early vegetables.

Dig a trench east and west twelve to eighteen inches deep. A bed three feet wide and ten feet long is large enough for any family garden. Board twelve inches high on the north side and six inches high on the south side. Fill twelve inches deep with straw, manure or weeds, moisten slightly, pack tightly, cover three inches deep with sandy loam; if the loam is mixed with some finely sifted sheep manure or leaf mould, it will greatly improve it. Sow the seed in rows across the hot bed north and south so that the sun will light both sides of the row during the day, making strong, healthy plants. Do not sow too thickly nor more deeply than one-fourth inch. Cover the hot bed with glass, not muslin. No less than twelve inches should exist between the glass and the soil. Sprinkle sufficiently to moisten the soil, but not enough to cool the manure, which would then become chilled and be worse than no manure at all. Raise the glass during the day, and close at night. Without ventilation the plants may be scalded during a warm sunshine day. Before transplanting from the hot bed, all plants should be hardened by exposing them to the sun for several days. Exercise proper judgment, lest they be destroyed.

THE SOIL

There are two kinds of soil in California that baffle the new gardener, and often puzzle the man of experience. One kind is the raw un-reclaimed soil that packs so hard that vegetation cannot take root. The other is soil as pliable as sand, and ought to grow anything but just will not. Both require the same solution. They need life (humus) and there is nothing better to put life into soil than stable manure or a green manuring crop plowed under at the right time, and to thoroughly air the soil by cultivation.

For your garden gather weeds and dig them under. If there is no stable manure available, any decaying vegetation plowed under will add humus. For the field, grow rye, vetch, melilotus, or barley during the winter months, and in the spring plant Sorghum, Sudan and Cow Peas. All these crops will furnish feed for the stock as well as humus to the soil.

To grow well a plant requires a deep, mellow, moist, soil, supplied with the right amount of air, heat and available plant food. An important step, then, in the successful growing of vegetables is to prepare the soil in such a way that it will be congenial to the best root growth. The soil for truck crops is a rich sandy loam—a soil containing varying proportions of clay, sand and organic matter. A good vegetable soil can be made in most back yards by intelligent management.

With this idea in view we have made of this catalog, a primer for the school garden.

Clay and Adobe Need Skill

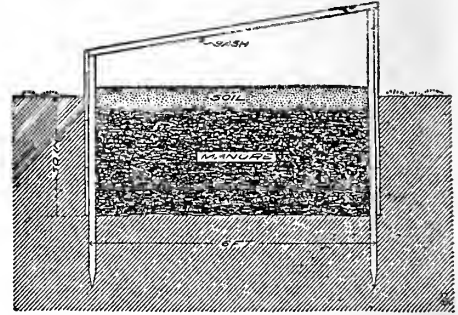
Of all the garden soils, clay is the most easily injured by tilling when it is not in the right condition as to moisture. If worked too wet, the particles all slide together into a compact mass. On the other hand, if worked too dry, the clods are hard to break. When clay soil is in the right condition to work it will crumble apart if squeezed in the hand. If it sticks together it is too wet. Clay soil should never be worked when it is wet, not even with a hoe. This is an important lesson for all gardeners.

In a deep, mellow soil, the plants grow more quickly, since larger root systems can be developed and more food and moisture taken in. A deep, mellow soil affords a larger reservoir to hold rain needed during the droughts that come in the growing season. Such a soil is warmer and contains air needed for the growing roots and for the bacteria that cause decay of organic matter or gather nitrogen from the soil air.

A Word About Sowing Seeds

Many seeds are small and the germination weak, therefore, sow them very shallow, often not more than one-eighth inch deep. This is because the germ or sprout must have air and light. If this is denied by too deep sowing, it dies before it reaches the surface.

In order to assist small or weak seeds to grow, it is ad-



Hot Bed, Cross Section

visable to plant plentifully, because the many seeds will give strength to raise the soil where one could not do so.

This advice applies particularly to beet and melon seeds, but it is applicable to all small seeds. It is easy to thin out the surplus plants. A good general rule is to plant seeds to a depth equal to from three to five times their diameter, make ridges to stand about six inches high, flattened to about ten inches wide on top and twelve inches between ridges. Drill the seed or transplant on each side of the ridge. Irrigate in the furrow between the ridges. By this method two ridges are irrigated with one furrow, and you will have only one furrow to cultivate after each irrigation. It is easy to see the advantage of this method over the usual way of drilling on level ground and irrigating each row, often flooding the plant, which is harmful, particularly during the heat of the summer. (See illustration.)

A Few Words About Irrigation

In seed beds where small seeds are sown thickly, it is necessary to sprinkle the beds, never flood them. During the winter months, sprinkle only in the morning when the water is warmer than the dew. This allows all the heat that accumulates in the soil during the day to be retained far into the night. During the hot summer months, it will be necessary to sprinkle in the evening to revive the plants after a hot day.



Irrigating Sweet Potatoes or other crops

When making a garden, whether for drilling or planting seed, or setting plants, always wet the ground thoroughly. GIVE IT A GOOD SOAKING TO A DEPTH OF TWO OR THREE FEET OR MORE. As soon as it is tillable—that is as soon as it can be spaded and pulverized, or when the soil will not stick to the spade, dig it ten to twelve inches deep, put stable manure into every other furrow and turn it under. This is needed for humus and fertilizer, either in sandy or loamy soil, and more especially in adobe soil. Pulverize the soil thoroughly and rake it evenly. While it is still moist, plant seed from one-fourth inch to one inch deep, in heavy soil, and a little deeper in sandy soil. Planted this way, almost any variety of seed will germinate and show above the ground in from four to ten days, with irrigation. Never sprinkle in a new garden before the plant is above ground, nor after if you can irrigate between the rows. It is far better to irrigate than to sprinkle, and much less labor. Always mulch the soil after each irrigation, as soon as it mulches readily, but no sooner. To allow the soil to bake after irrigation is far worse than no irrigation at all.

To sprinkle the garden slightly each day during the summer months is of little value unless the ground is also thoroughly irrigated once each week or two, according to the nature of the soil. Slight sprinkling refreshes the foliage, but may not penetrate the soil more than one inch deep. Thus as the under soil dries, the roots get no moisture. The plants suffer, and you do not suspect the cause because you sprinkle each day. This is a common fault and the cause of many failures.

Vegetable Garden Calendar for Out-Door Planting 300 Questions Answered On This Page

Owing to the diversity of the soil and climatic conditions of the great Southwest, it is impractical to follow without some deviation any table that might be formulated. We believe this table is as nearly correct as any table can be made, yet the time of planting must vary with each season, and so seldom are the seasons at all similar that there is always an element of risk for the man who plants early. Each month, too, requires certain varieties best suited to the season and purpose for which it is planted.

KIND	SEED FOR 1 ACRE	SEEDS FOR 100 FEET OF ROW	DISTANCE APART		DEPTH OF PLANTING (*2)	TIME OF PLANTING (*3)	READY FOR USE AFTER PLANTING (*4)
			ROWS APART (*1)	APART IN ROW (*1)			
*Artichoke.....	1 lb.	1 oz.	4 ft.	3 ft.	1 in.	April to July	8 mos.
*Asparagus Seed.....	3 lbs.	1 oz.	2 to 2 ft.	3 to 5 in.	1 in.	Feb. to May	2 years
*Asparagus Plants.....	14,000	1 oz.	2 to 3 ft.	15 to 20 in.	1 in.	Dec. to Mar.	1 year
*Beans, Bush.....	25 to 50 lbs.	60 lb.	11-2 to 2 ft.	4 in.	1 to 2 in.	Mar. to Sept.	2 to 3 mos.
*Beans, Pole.....	25 to 40 lbs.	1-2 lb.	3 to 4 ft.	3 ft.	1 to 1 1/2 in.	Mar. to July	2 to 3 mos.
*Beets, Table.....	8 lbs.	2 oz.	1 to 1 1/2 ft.	3 to 4 in.	1-2 to 2 in.	All the year	3 to 4 mos.
*Brussels Sprouts.....	1-2 lb.	1-4 oz.	1 1/2 to 2 ft.	1 1/2 to 2 ft.	1-2 in.	All the year	4 to 5 mos.
*Cabbage.....	1-2 lb.	1-4 oz.	3 ft.	1 to 2 ft.	1-2 in.	All the year	5 to 6 mos.
*Carrot.....	1-4 oz.	1 oz.	3 to 2 ft.	3 to 4 in.	1-2 in.	All the year	2 to 4 mos.
*Cauliflower.....	1-2 lb.	1 oz.	2 1/2 to 3 ft.	1 1/2 to 2 ft.	1-2 in.	July to Jan.	4 to 5 mos.
*Celery.....	1-4 lb.	1-4 oz.	1 1/2 to 3 ft.	6 in.	1-8 in.	Jan. to May	4 to 5 mos.
*Corn, Sweet.....	10 lbs.	1-4 lb.	3 to 4 ft.	12 in.	1 in.	Mar. to Aug.	2 to 3 mos.
*Cucumbers.....	3 lbs.	1-2 oz.	4 ft.	4 ft.	1 in.	Mar. to Sept.	2 to 3 mos.
*Egg Plant.....	1-4 lb.	1-3 oz.	3 to 2 1/2 ft.	1 1/2 to 2 ft.	1-2 to 1 in.	Dec. to July	3 to 4 mos.
*Kale, or Borecole.....	1-2 lb.	1 oz.	1 1/2 to 2 ft.	1 to 2 ft.	1-2 in.	All the year	3 to 4 mos.
*Kohl-Rabi.....	3 lbs.	1-4 oz.	1 1/2 to 2 ft.	4 in.	1-2 in.	All the year	3 to 4 mos.
*Lettuce.....	3 lbs.	1-2 oz.	1 1/2 to 2 ft.	6 to 8 in.	1-2 in.	All the year	3 to 4 mos.
*Melon, Musk.....	1 lb.	1-2 oz.	4 to 6 ft.	6 to 8 ft.	1 in.	Mar. to July	3 to 4 mos.
*Melon, Water.....	1 lb.	1 oz.	6 to 8 ft.	8 to 10 ft.	1 in.	Mar. to June	3 to 4 mos.
*Okra.....	6 lbs.	1 oz.	2 ft.	1 ft.	1-2 to 1 in.	April to July	4 mos.
*Onion Seed.....	3 lbs.	1 oz.	1 to 1 1/2 ft.	2 1/2 to 3 in.	1 in.	Aug. to April	5 to 6 mos.
*Onion Sets.....	250 lbs.	2 lbs. sets	1 to 1 1/2 ft.	2 to 2 1/2 in.	1 in.	All the year	4 to 5 mos.
*Parsley.....	2 lbs.	1-4 oz.	1 to 1 1/2 ft.	3 to 4 in.	1-8 in.	All the year	5 to 6 mos.
*Parsnip.....	4 lbs.	1-2 oz.	1 1/2 to 2 ft.	3 to 4 in.	1-2 to 1 in.	All the year	4 to 5 mos.
*Peas.....	60 lbs.	1-2 lb.	2 1/2 to 3 ft.	2 to 3 in.	1-2 to 3 in.	All the year	4 to 5 mos.
*Pepper.....	1-2 lb.	1-8 oz.	1 1/2 to 2 ft.	15 to 18 in.	1-2 in.	Dec. to July	3 to 4 mos.
*Potatoes, Irish.....	600 lbs.	5 lbs.	2 to 3 ft.	12 to 15 lbs.	4 to 6 in.	Jan. to Sept.	2 to 3 mos.
*Potatoes, Sweet.....	2 lbs.	3 lbs.	4 ft.	4 in.	1 in.	Mar. to July	3 to 4 mos.
*Pumpkin.....	1 lb.	1-2 oz.	6 to 8 ft.	6 to 8 ft.	1 to 1 1/2 in.	Mar. to Aug.	3 to 4 mos.
*Radish.....	12 lbs.	1 oz.	1 to 1 1/2 ft.	1 1/2 to 2 ft.	1-2 in.	All the year	1 to 2 mos.
*Rhubarb.....	2 lb.	33 plants	3 to 5 ft.	3 ft.	2 to 3 in.	Dec. to May	2 to 3 mos.
*Salsify.....	6 lbs.	1 oz.	1 1/2 to 2 ft.	2 to 4 in.	1 to 2 in.	All the year	3 to 4 mos.
*Spinach.....	15 lbs.	1 oz.	1 1/2 to 2 ft.	2 to 4 in.	1 in.	All the year	3 to 4 mos.
*Squash, Summer.....	2 lbs.	1 oz.	2 to 4 ft.	3 to 4 in.	1 in.	Feb. to Sept.	3 mos.
*Squash, Winter.....	1 lb.	1-4 oz.	7 ft.	7 to 9 ft.	1 1/2 in.	Mar. to Aug.	3 to 4 mos.
*Tomato.....	1-8 lb.	1-8 oz.	7 ft.	6 ft.	1-2 in.	Dec. to July	3 to 4 mos.
*Turnip.....	3 lbs.	1 1/2 oz.	1 to 2 ft.	3 to 4 in.	1-4 to 1-2 in.	All the year	3 to 4 mos.

(1)—Distance apart varies with the season and soil.

(2)—Depth of planting varies with the season and condition of soil.

(3)—Time of planting varies according to local conditions with regard to temperature.

(4)—Time of maturity varies with the temperature and cultural conditions. This table shows required time of maturity after transplanting. It requires 6 to 8 weeks longer from time of sowing seed.

†—Drill and thin.

*—Transplant.

†—Plant in hills.

SEEDS REQUIRED PER ACRE FOR FIELD CROPS IN SOUTHERN CALIFORNIA

VARIETY	PLANTS OR SEED	HOW TO PLANT	AVERAGE APPROXIMATE YIELD
Alfalfa.....	25 lbs. seed	Drills or broadcast.....	8 to 10 tons hay, or 600 lbs. seed
Alfalfa.....	8 lbs. seed	Drill or broadcast.....	3 tons hay and pasture
Barley.....	60 lbs. seed	Drill or broadcast.....	2 to 4 tons hay
Beans, Bush.....	25 to 40 lbs.	Drill in rows 2 ft. apart.....	1500 to 2000 lbs.
" Windsor.....	100 lbs.	Drill in rows 2 ft. apart.....	500 to 2000 lbs.
Beets, Stock.....	8 lbs.	Drill in rows 2 ft. apart.....	Hog pasture and green manuring
Burr Clover.....	20 lbs.	Drill or broadcast.....	20 to 25 tons of beets
Cane, or Sorghum.....	5 lbs.	Drill 5, or broadcast 40 lbs.	Pasture and green manuring
Carrots, Stock.....	4 lbs.	Drill in rows 1 1/2 ft. apart.....	20 tons green fodder
Corn.....	5 lbs.	Drill in rows 3 ft. apart.....	20 to 25 tons of carrots
" Ensilage.....	40 lbs.	Drill 1 ft. apart in rows 3 ft. apart.....	1-2 ton broom straw
" Field.....	10 lbs.	Hills 2 ft. apart, rows 3 ft. apart.....	20 to 40 tons silage
" Kaffir.....	5 lbs.	Drill in rows 3 ft. apart.....	2 tons grain
" Milo Maize.....	5 lbs.	Drill in rows 3 ft. apart.....	1 1-4 tons
" Pop.....	6 lbs.	Drill in rows 3 ft. apart.....	1 1-2 tons grain
Cotton.....	15 lbs.	Hills 1 ft. apart, rows 2 ft. apart.....	1 ton
Cow Peas.....	25 lbs.	Drill in rows 4 ft. apart.....	1 to 1 1/2 bales and seed
Feterita.....	5 lbs.	Drill in rows 3 ft. apart.....	Pasture and green manuring
Grass, Italian Rye.....	20 lbs.	Drill in rows 3 ft. apart.....	2 tons grain
" Paspalum.....	10 lbs.	Broadcast.....	Hay and pasture (damp land)
" Perennial Rye.....	20 lbs.	Broadcast.....	Cut 1 1-2 tons per acre 4 times (damp land)
" Rhodes.....	10 lbs.	Broadcast.....	Cut 2 tons per acre 3 times
" Sudan.....	10 lbs.	Broadcast.....	Cut 4 tons per acre 3 times
Oats.....	50 lbs.	Drill or broadcast.....	3 tons hay or 1 ton grain
Rye.....	40 lbs.	Drill or broadcast.....	Pasture or green manuring, or 1 ton grain
Vetch.....	40 lbs.	Drill or broadcast.....	Pasture or green manuring
Wheat.....	40 lbs.	Drill or broadcast.....	2 tons hay or 1 ton grain

NAMES OF VEGETABLES IN FOREIGN LANGUAGES

English	French	Italian	Polish	German	Spanish	Scandinavian
Asparagus.....	Asperge.....	Sparaghi.....	Szparagi.....	Spargel.....	Esparrago.....	Asparges
Beans.....	Haricots.....	Fagioli.....	Fasola.....	Bohnen.....	Habichuela.....	Boerner
Beet.....	Betterave.....	Barbabietola.....	Buraki.....	Rube.....	Remolacha.....	Roedbede
Cabbage.....	Chou.....	Cavolo Cappuccio.....	Kapusta.....	Kopfkohl.....	Col repello.....	Kaal
Carrot.....	Carotte.....	Marchew.....	Marchew.....	Carotten.....	Zanahoria.....	Gulerod-Karrotter
Cauliflower.....	Chou-fleur.....	Cavolfiore.....	Kalafori.....	Blumenkohl.....	Coliflor.....	Blomkaal
Celery.....	Celeri.....	Sedano.....	Seiery.....	Sellerie.....	Apio.....	Selleri
Corn.....	Mais.....	Mais.....	Kukurydza.....	Mais.....	Maiz.....	Mais
Cucumber.....	Concombre.....	Cetriolo.....	Ogorek.....	Gurken.....	Cobombro.....	Agurk
Dandelion.....	Dandelion.....	Dente di leone.....	Papawa.....	Lowenzahn.....	Diente de leon.....	Loevetand
Eggplant.....	Aubergine.....	Petroncino.....	Gruszka.....	Eierpfanne.....	Berenjena.....	Eplante
Endive.....	Chicoree.....	Endivia.....	Endyvia.....	Endivien.....	Endivie.....	Endivie
Kale.....	Chou vert.....	Cavolo verde.....	Solanka.....	Blatterkohl.....	Breton, Berza.....	Groenkaal
Kohlrabi.....	Chou-rave.....	Cavolo rapa.....	Kalarepa.....	Knollkohl.....	Col Rabano.....	Kaalrabi
Leek.....	Poireau.....	Porro.....	Pory.....	Porree.....	Puerro.....	Purre
Lettuce.....	Laituga.....	Lattuga.....	Salata.....	Salad.....	Lechuga.....	Salat
Melon, Musk.....	Melone.....	Melone.....	Melone.....	Melone.....	Melone.....	Melón
Melon, Water.....	Melón d'eau.....	Melone d'acqua.....	Melón, Wodny.....	Melone.....	Sandia.....	Vandmelson
Musbroom.....	Champignon.....	Fungo Pratato.....	Grzyb.....	Schwamm.....	Seta.....	Champignon
Okra.....	Gommo.....	Oera.....	Ocher.....	Gombo.....	Gommo.....	Hibiskus
Onion.....	Oignon.....	Cipollo.....	Cebula.....	Zwiebel.....	Cebolla.....	Erier
Parsley.....	Persil.....	Prezzemolo.....	Pietruszka.....	Petersile.....	Perejil.....	Persille
Parsnip.....	Panais.....	Pastinaca.....	Pasternak.....	Pastinake.....	Cibiviva.....	Pastinak
Peas.....	Pois.....	Pisello.....	Groch.....	Erbsen.....	Sandía.....	Erbsen
Pepper.....	Piment.....	Peperone.....	Pieprz.....	Pfeffer.....	Pimiento.....	Spanks Peper
Pumpkin.....	Potiron.....	Zucca.....	Bania.....	Melonen-Kurbiss.....	Calabaza Tonatera.....	Graeskar
Radish.....	Radis.....	Ravanello.....	Rzodkiew.....	Radies.....	Rabanto.....	Reddik-Radis
Salsify.....	Salsifis.....	Sassericia.....	Jarzy Ostryga.....	Haferswurzel.....	Salsif.....	Havverod
Spinach.....	Spinach.....	Spinace.....	Spinak.....	Spinat.....	Espinace.....	Spinat
Squash.....	Courge.....	Zucca.....	Miekurz.....	Kurbiss.....	Calabaza.....	Squash-graeskar
Swiss Chard.....	Polree.....	Bietla.....	Drill.....	Beisskohl.....	Bleda.....	Blad bede
Tomato.....	Tomate.....	Pomo d'oro.....	Pomidor.....	Liebesapfel.....	Tomate.....	Toniat
Turnip.....	Navet.....	Navone.....	Rzepa brukiew.....	Welsse-Rube.....	Nabo.....	Turnips

NUMBER OF PLANTS TO ACRE SET AT REGULAR DISTANCES APART

DISTANCE APART	NO. PLANTS
3 in. by 4 in.....	522,720
4 in. by 4 in.....	392,040
6 in. by 6 in.....	174,240
1 ft. by 1 ft.....	43,560
1 1/2 ft. by 1 1/2 ft.....	19,360
2 ft. by 1 ft.....	21,780
2 ft. by 2 ft.....	10,890
2 1/2 ft. by 2 1/2 ft.....	6,900
3 ft. by 1 ft.....	14,520
3 ft. by 2 ft.....	7,260
3 ft. by 3 ft.....	4,840
3 1/2 ft. by 3 1/2 ft.....	3,555
4 ft. by 1 ft.....	10,890
4 ft. by 2 ft.....	5,445
4 ft. by 3 ft.....	3,630
4 ft. by 4 ft.....	2,722
4 1/2 ft. by 4 1/2 ft.....	2,150
5 ft. by 1 ft.....	8,712
5 ft. by 2 ft.....	4,356
5 ft. by 3 ft.....	3,904
5 ft. by 4 ft.....	2,178
5 ft. by 5 ft.....	1,742
5 1/2 ft. by 5 1/2 ft.....	1,440
6 ft. by 6 ft.....	1,200
7 ft. by 7 ft.....	888
8 ft. by 8 ft.....	680
9 ft. by 9 ft.....	537
10 ft. by 10 ft.....	435
11 ft. by 11 ft.....	360
12 ft. by 12 ft.....	302
13 ft. by 13 ft.....	292
14 ft. by 14 ft.....	193
15 ft. by 15 ft.....	170
16 ft. by 16 ft.....	160
16 1/2 ft. by 16 1/2 ft.....	154
17 ft. by 17 ft.....	150
18 ft. by 18 ft.....	134
19 ft. by 19 ft.....	120
20 ft. by 20 ft.....	108
25 ft. by 25 ft.....	69
30 ft. by 30 ft.....	48
33 ft. by 33 ft.....	40
40 ft. by 40 ft.....	27
50 ft. by 50 ft.....	17
60 ft. by 60 ft.....	12
66 ft. by 66 ft.....	10

Rule.—Multiply the distance in feet between the rows by the distance the plants are apart in the rows, and product will be the number of square feet for each plant or hill, which divided into the number of square feet (43,560), will give the number of plants to the acre.

Vegetable Plants and Roots --- Millions of Them

No Tender Plants Sent by Mail Except at the Buyer's Risk

We aim to have on hand throughout the year vegetable plants of every kind in their proper season.

All hot house plants are thoroughly hardened by exposure in the open before sending out.

Cash must accompany all orders for plants.

	On Hand	*After May 1st tomato plants grown outside, \$3.50 per 1000.			
		Doz.	Price—Postpaid Per 100	f. o. b. here Per 1000	Weight Per 1000
Artichoke, Green Globe.....	Jan. 1st to May 1st	\$2.00	\$12.50	\$.....	...
Asparagus, Martha Washington, Palmetto.....	Jan. 1st to May 1st	.50	2.50	12.00	50 "
*Cabbage, Winningstadt, Danish Ballhead, All Year		.25	.75	4.00	50 "
*Cauliflower, Snowball, Early Pearl.....	Sept. 1st to Apr. 1st	.25	1.00	4.00	50 "
Chives		1 bunch 10c; 3 bunches 25c.			
Egg Plant, New York Spineless	Apr. 1st to Sept. 1st	.75	4.00	30.00	100 "
Horse Radish, Bohemian	Jan. to May 1st	.25	1.50	10.00	25 "
*Pepper, Anaheim Chili	Mar. 15th to Sept. 1st	.30	2.00	15.00	20 "
Chinese Giant	Mar. 15th to Sept. 1st	.30	2.00	15.00	20 "
Pimiento	Mar. 15th to June 1st	.30	2.00	15.00	20 "
Rhubarb	Jan. to May 1st	1.50	10.00	.....	...
*Sweet Potato, Yellow Jersey	Mar. 15th to July 1st	.20	1.25	5.60	20 "
Sweet Potato, Nancy Hall.....	Apr. 1st to June 1st	.25	1.50	6.00	20 "
*Tomato, A. & M. First Early	Feb. 15th to June 1st	.25	1.50	10.00	20 "
Beefsteak	Feb. 15th to June 1st	.25	1.50	10.00	20 "
Stone	Apr. 1st to Sept. 1st	.25	1.50	10.00	20 "



Tomato Plants, Millions of Them

Notice to Cannery and Large Planters:

We grow plants, millions of them, and by contracting with us two months in advance of the time you want delivery, for all the plants you will need, you can then arrange with your growers to furnish them plants when they are wanted, thereby saving much anxiety, labor and expense.

Our Terms:

As an expression of sincerity, on the part of the customer and remuneration to us for the expense of growing these plants, we must have one-half cash with the signing of the contract.

On account of the perishable nature of plants, subject to delay in transit and quarantine regulations, we prefer to deliver all plants at the counter in our store, but when necessary to send via mail or express, it must be understood that we do so at the buyer's risk. We will say, however, that less than 2 per cent of plant shipments go wrong, but the small percentage takes all the profit out of the season's business.

A SUGGESTION

When you have more than you want, sell or give to your neighbors. Do not waste!

Each season some one in every community has neglected to grow plants for their garden, often with the idea that they will need only half a dozen each of several kinds and they can be bought cheaper than they can be grown; all of which is very true. Therefore let us suggest that when you are reading this catalog preparatory to making up your order for seeds take into consideration that many of your neighbors will want some plants. So, if you hesitate to order a packet of this or that because three or four plants are all you need, just consider that your neighbor will want some; it will not be much trouble to grow them along with other things, and you or your boy may make a little money with which to buy War Saving Stamps, and at the same time increase food production.

Owing to the expense of packing small plants for shipment by mail or express, we must request that your order for plants amount to not less than one dollar.

Heretofore we have offered home garden collections but they have not proven practical because few home gardens could accommodate the entire collection and few customers wanted everything offered on the list.

Therefore, we have listed on this page a collection of our home garden favorites. You may select what you want and when you have made up your list, add the cost of packets, and ounces, only, and if the order amounts to \$1.00 or more, deduct 10 per cent off packets and ounces only.

Be sure to send an order for seeds so that your name will continue on our mailing list. You will then receive our next catalogue as soon as it is from the press:

Asparagus	Argenteuil
Beans	{ Kentucky Wonder
	{ Stringless Green Pod
	{ Fordhook Lima
	{ Monstrous Lima
Beets	Detroit Dark Red
Chard	White Swiss
Cabbage	{ Glory of Enkhuizen
	{ Chinese
Cauliflower	Ex. Early Calif. Pearl
Carrots	Chantenay
Celery	Golden Self Blanching
Sweet Corn	{ Country Gentleman
	{ Oregon Evergreen
Cucumber	Klondike, Lemon
Kale	Tall Scotch
Lettuce	{ Iceberg (Spring Planting)
	{ Los Angeles Market (Fall Planting)
Mustard	Ostrich Plume
Casaba	Hybrid
Muskmelon	Armenian
	Tip Top
Watermelon	{ Klondike
	{ Chilian
	{ Angelino
	Winter Melon
Onion	Only One—The Riverside Sweet Spanish
Peas	{ Admiral
	{ Telephone
Pepper	Chinese Giant
Potato	White Rose
Radish	{ Icicle
	{ Scarlet Turnip
Roselle	
Rhubarb	Wagner's Giant
Squash	{ Winter Banana
	{ Zucchini
	White Bush
Tomato	Ponderosa (Beefsteak)

Every packet contains enough seed to grow more vegetables of its kind than the average family can consume in a season.

For complete description and cultural instruction of these items, read this catalog.

A & M

RELIABLE
SEEDS

Aggeler & Musser

Seed Co.'s

Vegetable Seeds are the Standard Seeds of the Southwest

A & M

RELIABLE
SEEDS

The vegetables grown from A & M seeds are the standard vegetables at every market in which they appear. The following pages offer only the varieties that have been tried and proven to be adapted to certain conditions, and each variety is adequately described, that the purchaser need make no mistake in selecting the seeds best suited to the season and to his local conditions. Read the descriptions carefully; if in doubt, write us.

SEEDS PLANTED OUT OF SEASON, OR IN UNCONGENIAL SOIL MEANS LOSS TO THE GROWER.

Artichoke

Green Globe (Half-Moon May Type)

REMARKS: The early artichoke brings a high price; but Southern California climate does not produce them early enough to get this high price, therefore we do not advise planting more than $\frac{1}{4}$ acre for local market.

The French Artichoke is being canned quite extensively and we would suggest, if you live near a cannery, seek to make a contract to grow the artichoke in sufficient quantity.

The seed may be sown at any time and transplanted when about eight inches high. It will mature in about eight months from time of planting the seed, but in Southern California the proper season to bloom is in April.

The best way to get a good artichoke is to secure plants from old stalks of some good strain, as seeds cannot be depended upon to produce any certain variety. One half dozen is enough for a family garden.

Transplant five feet apart in rows seven feet apart. When the young plants are attacked by aphids spray with "Black Leaf 40." About the time the buds are well advanced the under leaves often become a harbor for flies and aphids and ants. When this occurs break off all the under leaves, clear the ground of all rubbish and spray with "Black Leaf 40" and use ant poison. See Insecticide page —. You will then have a long season of large, clean buds.



Six Artichoke Plants in a Family Garden

(Pkt. 10c) (oz. \$1.20) ($\frac{1}{4}$ lb. \$4.00) (lb. \$12.00).

Plants from good stalks, 20c each; 6 plants \$1.00; 12 plants \$2.00 postpaid.

Read

Each year our attention is called to many new and novel vegetables. We are always interested and appreciate the courtesy. If after a careful investigation we find any new thing better for any particular purpose than that which we already have, we then offer it through the medium of this catalog with an appropriate endorsement.

It is our aim to offer only that which we know to be the best of its kind for the purpose for which it is recommended.

You need look no further, the best of everything is listed here.

This Catalog comprises a list of all vegetables and farm seeds offered by us, all of which have been tried and proven to be adapted to climatic conditions of the Southwest and Mexico. BUT always have in mind, each season, even each month requires not only different varieties of seed but different strains of the various varieties. For instance, Los Angeles Market Lettuce is the best of all when planted from August 1st to February 1st, but planted at other times is very inferior, while Marblehead and Iceberg Lettuce are

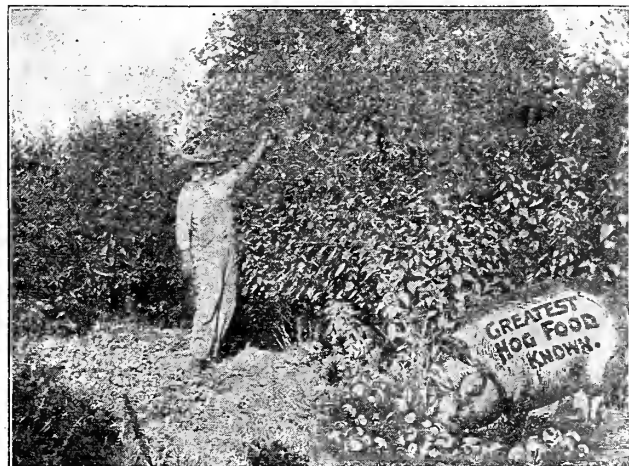
best suited to the Summer months. This applies only to the climate of the Southwest. What is true of lettuce will apply also to beans, melons, onions and many other vegetables.

Thus by years of attention to this work we have classified each variety of vegetable according to its best adaptation with regard to soil and climate. The result is that our growers have fewer crop failures.

Jerusalem Artichoke

REMARKS: There is only a limited market for the Jerusalem Artichoke because it is little used for human food, and because of its perishable nature it is advisable that you grow only for your own use.

A border of artichoke serves as an effective windbreak.



Jerusalem Artichoke

It is a most valuable food for hogs. It is said by many hog raisers that a hog fed on artichokes has never been known to have cholera. They grow to perfection here, yielding as much as 500 sacks per acre. They are grown from tubers the same as Irish potatoes. It requires 300 lbs. to plant an acre. Cut the tubers to single eyes. Plant during March and April two feet apart, in rows three feet apart. Let them grow until fall and allow the hogs to harvest the crop.

The tubers are excellent for table use boiled as potatoes or parboiled and pickled in vinegar.

(Per lb. 25c) postpaid; Write for quantity price.

READ THIS

We are continually getting letters of inquiry for just such information as is given in this book. We are pleased to get the letters, but if the writers would first look to the subject of their inquiry, they would in many instances save themselves trouble and time.

Complimentary

"I am very glad to receive your catalog for 1920; it is the true California style and is very creditable both in its ornamentation and the care with which important information is prepared and set forth. Such work is a direct contribution to California development and prosperity. "E. J. WICKSON, Berkeley, Cal.

A & M Asparagus

Write U. S. Dept. of Agriculture for Farmers' Bulletin No. 829, "Asparagus."

REMARKS: No vegetable is more healthful or more palatable than the tender asparagus that appears on the table very early in spring.

Every home garden should have a bed about ten by twenty feet, planting about one hundred roots. This would furnish enough tips from day to day to supply the family table.

Set the rows two feet apart instead of four as for field culture.



A No. 1 Field of Asparagus, Older Than 25 Years

Argenteuil An excellent variety for the canner and early shipper. This variety is now more extensively grown by large planters and shippers because it is more prolific and stands shipping better. Also its purple tinge is attractive, and its excellent flavor puts it on an equal with the Palmetto for table use.

(Pkt., 10c), (oz., 25c), (¼ lb., 50c), (lb., \$1.50 postpaid).

Conover's Colossal This type is one of the largest and most extensively used green varieties. The shoots of asparagus are green, tinged with purple at the tips. Excellent quality. (Pkt. 10c) (oz. 20c) (¼ lb. 45c) (lb \$1.45, postpaid).

Palmetto The popular variety for the home garden or market. The sprouts are green and their delicious flavor makes this variety the favorite for table use. (Pkt. 10c) (oz. 20c) (¼ lb. 45c) (lb \$1.45, postpaid).

Asparagus Roots We have always on hand roots of the Palmetto and Argenteuil varieties. Two year old roots—(per doz. 50c) (100, \$2.50).

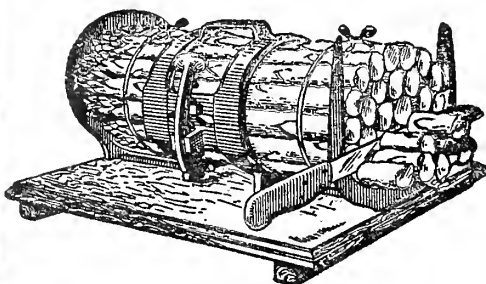
Asparagus Knife—Price 90c; by mail, \$1.00.

Asparagus Moss We always have on hand a large supply of moss for asparagus shippers. Price on application.

Tapes

FOR TIEING ASPARAGUS

Spools of 1000 yards, red, white or blue
\$6.75 per Spool



Asparagus Buncher

Culture For Field Planting

Drill the seed thinly in rows ten inches apart in your seed bed during March and April.

Transplant about January 1st, setting the roots twelve inches apart in furrows 4 feet apart and twelve inches deep.

Cover with two or three inches of soil, and on top of that three or four inches of well rotted manure thoroughly mixed with soil. This is sufficient for the first season and will produce a marketable crop the following April, possibly March. Continue cutting until the sprouts become too small for the kitchen. Then allow them to grow to full size and spray the whole thoroughly with powdered sulphur during August, using only the best grade. This is to prevent or destroy any mildew, red spider or rust. In November cut the stalks close to the ground and burn them. Fertilize the rows with cheap coarse salt (one ton per acre). Cover the rows in hills like the picture. With proper hoeing and culture the asparagus rows will bear profitably for many years. One pound of seed will grow plants sufficient for one acre.

Market: A large acreage is grown for canneries, and in sections where it can be produced very early it is grown for Eastern markets. It is also very profitable to grow for local market.

"MARTHA WASHINGTON"

The New Rust-Resistant Asparagus

This new pedigreed rust resistant variety was bred up by the United States Bureau of Plant Industry co-operating with the Massachusetts Agricultural Experimental Station covering a period of fourteen years. The name Washington was applied because the original or first acceptable rust proof male plant was given that name and all subsequent prodigies are identified by that name. There are now two other strains known as Martha Washington and Mary Washington. The one we offer is the Martha Washington." (Pkt. 15), (oz. \$1.00) (¼ lb. \$3.00) (1 & \$9.00).

We have one year old roots which we offer at (1 doz., 50c), (100, \$2.50) (1000, \$12.00). Write for price on large lots.

Complying with recommendations of the United States Department of Agriculture, our roots are selected and are not cut back.



Martha Washington Seedlings

Asparagus Buncher

We carry the Philadelphia make, which is the popular one with all large shippers. No. 1 size will shape bunches 3-3½ inches in diameter, weighing about one pound. No. 2 will shape bunches 4-5 inches in diameter, weighing about two pounds. Price—(No. 1, \$2.75), (No. 2, \$3.00), f. o. b. here.

Whether your patch is small or large, it will pay you to get an Asparagus Buncher, either one or two pound. All professional shippers put it up that way because it saves the retailer the trouble of weighing and the constant loss of over-weight to each pound; besides, this work may be done at home and not at the busy market.

Martha Washington

A & M. Beans

All 10 lb. Lots of Beans \$3.50 postpaid. Write for quantity price.

All orders for large quantities that would be cheaper to send by express or freight, we deliver to the transportation company at Los Angeles. We do not prepay transportation unless sufficient money has been sent for that purpose.

Market gardeners who are beginners and not familiar with gardening in the Southwest would do well to consult

us either in person or by mail before buying, as to variety and time of planting. Special attention should be given to the instructions concerning the time of planting, which is an important factor in Southern California, as each month requires a different variety according to the market for which they are grown.

Bean Culture for Home Gardens

During the early spring give sandy soil preference, but heavy soil in summer. When the ground is properly moistened and pulverized, plant bush beans one or two seeds every four inches, in rows twenty to twenty-four inches apart. If the soil is heavy, one-half inch is deep enough. Plant deeper in sandy soil. During the cool spring months plant shallow; during the hot summer months plant down to moist earth, if it should require five inches. Do not plant in muddy soil, nor irrigate immediately after planting, else the seed will rot. During the winter months do all irrigating in the morning, because the water from the pipe is warm and will help the growth. When applied in the evening the water chills the plants, cools the soil, retards the growth and causes mildew. During hot summer days irrigate or sprinkle in the late afternoon.

Mulch the soil as soon as it gets dry enough after each irrigation. All beans should be sprayed with powdered sulphur of the best grade twice during the season—once before the blossom appears and again just before the green bean is ready to pick. Apply the powdered sulphur in the morning of a bright sunny day before the wind rises, and before the dew has dried. It is not necessary to cover the foliage with sulphur thick enough to injure it, but if sulphur is scattered along the row so that the dust will pass lightly over the field, the fumes created by the heat of the sun will prevent mildew.

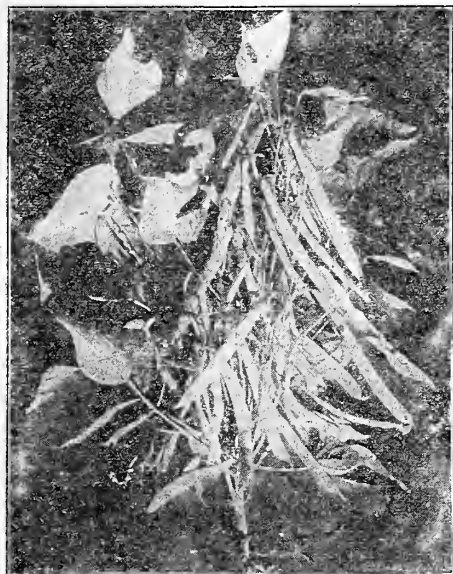
Sulphur will not cure, but will arrest and prevent mildew.

Market gardeners should read carefully the description of each variety. Anyone having light, sandy soil that needs enriching, should plant it to beans, inoculating the seed with nitrogen culture.

The hand picking of seed beans is a task of large proportion and it may surprise you to know that we have employed almost throughout the entire year, six or more persons constantly hand-picking beans and peas.

The following list comprises all the varieties best suited to general gardening. We have ceased to catalog others that would only mislead the gardener.

Write for quantity prices on all beans.



A Photograph of one plant
Ventura Wonder Wax

FLAT YELLOW POD VARIETIES

Our Golden Wax Long, flat pod, rich golden yellow, stringless. This variety is so superior to other strains of Golden Wax that we have discarded all but this. Plant early in April to August. (Pkt. 10c) (½ lb. 25c) (lb. 40c) (10 lbs. \$3.50) prepaid.

GROWING GREEN OR WAX BEANS FOR THE CANNERY It is a good side-crop to grow in a young orchard to make quick returns because your crop is off and the ground available for another crop within ten weeks, besides it enriches the soil.

Ventura Wonder Wax Nearly all agree that this is a wonder indeed. Long flat pod, very prolific; bears early, and continues nearly all summer; planted in September, if not too cold, bears until January, being rust proof. This bean was introduced by us in 1900, and has been the market gardener's favorite since that time. Plant from February to October. (Pkt. 10c) (½ lb. 25c) (lb. 40c) (10 lbs. \$3.50) prepaid. Write for quantity price, as prices fluctuate.

Rust Proof

"In a field of Ventura Wonder, were some Navys mixed here and there. The Navys were destroyed with rust but the Venturas were unaffected."

Davis Kidney Wax Good bearer; pods are long, rustless and hardy; very tender when young. (Pkt. 10c) (½ lb. 25c) (lb. 40c) (10 lbs. \$3.50) prepaid.

This is the best Garden Bean for the interior, Imperial Valley, Arizona and New Mexico, because the blossoms will not fall even at a temperature of 110 degrees, when most other varieties fail, and the Davis will yield a big crop.

"Thanks for the catalog which might be called 'The Gardener's Encyclopedia.' Thos. K. Sawyer, Ventura Co., Cal."

"I want to tell you that the seeds I got from you two months ago are very successful in my home garden. They are all growing splendidly. N. Masumoto, Ter. of Hawaii."

"Don't fail to send me your 1921 catalog. I find many valuable suggestions and much information that is very useful to me in them. Every time I look through it, which is often, I find something new that I can make use of in my business. Jas. W. Jordan, Sin., Mexico."

FLAT GREEN POD VARIETIES

Canadian Wonder Flat pod of good flavor, not stringless, but otherwise tender. Very hardy. Desired above all others by gardeners growing on the foothills for winter shipping, because of its luxuriant growth and continuous bearing of long, straight pods. Plant in September, October, November, December and January, according to your locality. (Per pkt. 10c), (½ lb. 25c) (lb. 40c) (10 lbs. \$3.50) prepaid.

"B. S. Norton, near Inglewood, planted Canadian Wonder Beans on the 1st of April and on the 1st of August, and from a plot, 50x50, Mr. Norton realized \$51.75, not counting beans used for home consumption."—Plant A. & M. Reliable Seeds.

Six Weeks A strong, rapid grower, which matures quickly. Flat pod. Only desirable for forcing. Plant in February and March, also early in September and October. (Pkt. 10c), (½ lb. 25c), (lb. 40c), (10 lbs. \$3.50).

Dwarf Horticultural Desirable both for green and dried beans. Stringless and of excellent flavor. It is of Italian origin and is very popular with the Italian population. (Pkt. 10c), (½ lb. 25c), (lb. 40c) (10 lbs. \$3.50) prepaid.

Longfellow or French Stringless Attractive, Long Green Pods of Excellent Quality. This perfectly round, green podded bean is tender and prolific, and is one of the best varieties for the home garden. The pods are of fine quality, nearly stringless and exceedingly handsome. In production, very prolific; exhibits a profusion of highly beautiful, rich green pods, 7 to 8 inches long, straight and round. When cooked the flavor is exquisitely delicious. The plant grows 14 to 16 inches high, bearing edible pods in 35 days. (Pkt. 10c) (½ lb. 25c) (lb. 40c) (10 lbs. \$3.50) prepaid.

French Mohawk Long oval pod, very tender and prolific. Matures in six weeks. Desirable for a profitable short crop, as only two months is required from seed time to the end of the crop. Plant every month from March to October. (Per pkt. 10c) (½ lb. 25c) (lb. 40c) (10 lbs. \$3.50) prepaid.

"I enjoy reading your catalog.
Ellen M. Schusles, Los Angeles, Cal."

"Your 1920 catalog received. Best I ever saw. I had it for the first time last year when I was at Elmwood, Cass County. A. C. Ferguson, Nebraska."

BUSH BEANS--Continued



Stringless Greenpod

Stringless Green Pod One of the best varieties for the first early spring planting. It is very prolific and tender, a great favorite with market gardeners, for a quick maturing crop. (Pkt. 10c) (½ lb. 25c) (lb. 40c) (10 lbs. \$3.50) postpaid.

Early Refugee or 1000 to 1 An all around favorite for the summer months. Round pod, medium size, tender, desirable for table and cannery. It is a favorite with the market gardener because it is a good shipper, a good seller, and very prolific. Plant from April to August. (Pkt. 10c) (½ lb. 25c) (lb. 40c) (10 lbs. \$3.50) prepaid.

Stringless Refugee This variety is a decided improvement over the old refugee in that it is entirely stringless, somewhat larger pods and more prolific, which is claiming a great deal, for the Refugee bean has long been considered one of the most prolific of all string beans. (Pkt. 10c) (½ lb. 25c) (lb. 40c) (10 lbs. \$3.50) prepaid.

ROUND YELLOW POD VARIETIES

Stringless or Refugee Wax This is a favorite because of its hardy growth and enormous yield of tender, round stringless pods of excellent flavor. Plant from April until September. (Per pkt. 10c), (½ lb. 25c), (lb. 40c), (10 lbs. \$3.50), prepaid.

Prolific Black Wax Pod round straight, five to six inches long. Decidedly the most desirable for mid-summer gardening. Plant from April to August. (Pkt. 10c), (½ lb. 25c), (lb. 40c), (10 lbs. \$3.50), prepaid.

Baldwin Wonder Wax A very prolific wax-podded variety which we recommend for the home garden and especially for home canning because of the beautiful waxy pods. The round fleshy pods are entirely stringless, very brittle and of exceptionally good quality. Do not fail to include this variety in your home or school garden order. (Pkt. 10c), (½ lb. 25c), (lb. 40c), (10 lbs. \$3.50), prepaid.

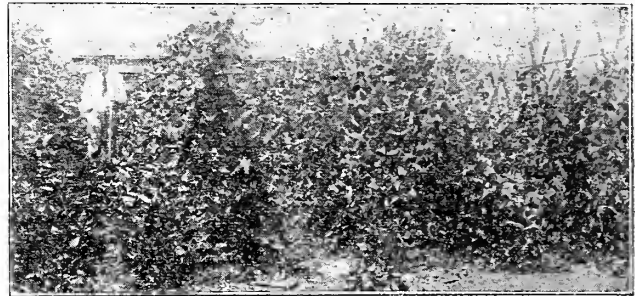
Giant Stringless Green Pod

Makes an excellent succession to Burpee's Stringless Green-Pod when planted at the same time. The plants are of strong growth; pods slightly curved, quite meaty, being broadly rounded and saddle-backed; brittle and stringless at all stages. (Pkt. 10c) (½ lb. 25c) (lb. 40c) (10 lbs. \$3.50) prepaid.

Black Valentine A very hardy and productive green podded bush bean with strong vigorous growth. It will withstand early and late frosts that kill other varieties. They are perfectly round and straight. It is a splendid sort for a market gardener. Very popular in the South on account of its blight resisting qualities; it is a good shipper. (Pkt. 10c) (½ lb. 25c) (lb. 40c) (10 lbs. \$3.50) prepaid.

POLE BEANS

A Word About Pole Beans Many growers hesitate to plant pole beans because of the scarcity of poles. This objection is easily overcome, and the greater profit in growing the pole varieties should be sufficient reason for going to a little extra care.



A Good Way to Train All Pole Beans

Horticultural Pole Also referred to as Romaine, Cranberry, Italian and Cornfield. Its large succulent tender pods make it a desirable bean for the table. It is also one of the most desirable green shelled beans for succotash and excellent as a dry bean. (Pkt. 10c), (½ lb. 25c) (lb. 40c) (10 lbs. \$3.50) prepaid.

White Creaseback This variety is especially valuable for its extreme earliness, and its habit of perfecting all its pods at the same time. Vines small but vigorous, and, in good soil, wonderfully productive, bearing pods in clusters from four to twelve. Pods medium length, silvery green, of the best quality as snaps and stand shipping better than most sorts. The seed is small, oval, very white and hard. It is an excellent bean to cook dry or to sell on the open market as the small white bean. (Pkt. 10c) (½ lb. 25c) (lb. 40c) (10 lbs. \$3.50) prepaid.

Lazy Wife One of the best pole beans for snaps. The large, fleshy pods are five to six inches long and entirely stringless when young, have a rich buttery flavor. When nearly matured they are delicious when shelled and cooked while yet green. The dry beans, too, are unsurpassed by any. The seed is white, nearly round, and somewhat larger than a pea. (Pkt. 10c), (½ lb. 25c), (lb. 40c) (10 lbs. \$3.50) prepaid.

The Scarlet Runner An old-time favorite that heretofore has been planted chiefly for ornamental purposes. But few people know that the Scarlet Runner may be planted May 1st and in six weeks attain a height of eight feet, and rapidly cover an arbor with vines twenty feet long.

The Scarlet Runner planted May 1st will bear edible pods from July 1st until late fall. When the vines mildew trim them back to within a foot of the ground. The roots will survive the winter, and by the following May will have the arbor again covered and bear green beans until August when the vines again mildew. Cut back as before and with proper irrigation they will bear another crop in October, and so on two crops a year indefinitely.

Be sure to build a permanent arbor, and plant some Scarlet Runner during April. (Pkt. 10c), (½ lb. 25c), (lb. 40c) (10 lbs. \$3.50) prepaid.

A CALL DESK

**Leave Your Order When You Come to Town
It Will Be Ready When You
Call for It**

We have inaugurated what we have termed a Call Desk for the accommodation of the rural population or business men who come to town either for business or to shop. They have not always time to wait for the filling of their orders. Therefore:

A competent person will be in charge of this counter ready and willing to assist you, should you be in doubt as to what you want.

You can order by phone, 60875 or Main 4545, ask for the Call Desk, give your order and state what hour you will call for it.

Or order by mail to avoid delay, addressing Call Desk, Aggeler and Musser Seed Company, Los Angeles, Cal. State just what day and hour you will call.

You will find this method particularly convenient when plants are wanted. They will be ready when you call, thus saving much valuable time.

Remember the Call Desk and take advantage of it.



Superior Kentucky Wonder—Actual Size

White Seeded Kentucky Wonder

This variety of the many pole beans may truly be termed the All-round Money-Maker. It is as hardy and rust resistant as the Canadian Wonder. In the South where earliness and lateness mean so much to the market gardener, the White Seeded Kentucky Wonder is far ahead of other varieties. It is enormously prolific of firm pods that withstand shipping to almost any part of the United States. It matures ten days earlier than the Brown Seeded Kentucky Wonder.

The seed is pure white, and on that account is a profitable commercial bean, for the gardener, the shipper and canner (Pkt. 10c) ($\frac{1}{2}$ lb. 25c) (lb. 40c) (10 lbs. \$3.50) prepaid.

MRS. NEILSON, Burbank

I purchased of you fifteen cents worth of Kentucky Wonder Beans and planted 4 rows 60 feet long. I gathered 386 pounds of green beans. They were trellised with 4 ft. lath.

Celestial or Yard Long

A good table bean as well as a curiosity. It is very prolific and a rank grower. Should have ample arbor to climb upon. It should be grown more extensively in the home garden. It is of Chinese origin and one of the best vegetables emanating from that source. It is also absolutely rust-proof. (Pkt. 15c) (1 oz. 30c postpaid).

Superior Kentucky Wonder

We have been growing this bean on our trial grounds for two years, and are now convinced it is superior to any of the other Kentucky Wonder types offered by us.

The illustration on this page is from a photograph of a single matured vine showing how prolific it is. The large size pods fill perfectly and in the "snap" stage are deep green color, meaty, stringless and of delicious flavor. Vines continue to bear immense quantities throughout the season if kept picked closely. When allowed to ripen the shell beans of pure white color are most excellent for winter use. It is a pole snap bean that no home garden should be without. It's the one pole bean for any garden and you will never regret planting it. It will prove a prize winner in any contest.

(Pkt. 10c) ($\frac{1}{2}$ lb. 25c) (lb. 40c) (10 lbs. \$3.50) postpaid.

MR. POSTELL, California

I got some "Superior Kentucky Beans," will say in advance that no bean can compare with them. I planted the beans and after using all the green beans we could I got 4 lbs. dry beans from 3 hills. In July I planted the seed I had grown and just 6 weeks to the day the dead vines were pulled out. I will leave this open for some contest. I got 2 crops from the Monstrous Lima bean and nearly all perfect seeds average $1\frac{1}{4}$ inches long, but the foliage got so dense I cut them out.

Kentucky Wonder Long, round pod. This is the most popular bean in Southern California, because here it grows to perfection; it is more prolific than any other variety, which, together with its other good qualities, makes it the gardener's delight. Plant from April to July. Do not plant later than August, as it is very prone to rust during the month of September. (Pkt. 10c) ($\frac{1}{2}$ lb. 25c) (lb. 40c) (10 lbs. \$3.50) prepaid.

Kentucky Wonder Wax The Pride of the Garden. Its popularity as a home garden bean soon reached nationwide proportions, and today is offered by nearly every seedsman in the United States. It commences to bear when scarcely higher than the average bush variety, and keeps on producing until killed by a frost. It is a rampant grower, one plant filling a pole with a mass of vines densely loaded with luscious beans. They are firm, entirely stringless, and when cooked, deliciously rich and buttery. The seed is brown, closely resembling that of the Kentucky Wonder. Plant from April to August. (Pkt. 10c) ($\frac{1}{2}$ lb. 25c) (lb. 40c) (10 lbs. \$3.50) prepaid.

Italy's Favorite An all around good bean for the family garden. A stringless green pod of excellent flavor; a good green shelled bean; good for succotash, for canning and none better for cooking. It is an all around good commercial bean. (Pkt. 10c) ($\frac{1}{2}$ lb. 25c) (lb. 40c) (10 lbs. \$3.50) prepaid.

"I am enclosing an order for seeds from your new 1926 catalog which I received a few days ago and for which I thank you. Your catalog has been coming to us for several years and it is better every year and I appreciate it very much. I have about half a dozen friends in other states whom I would be pleased to have your catalog. Am sending names and addresses.

F. M. ANDERSON, San Bernardino County, Cal."

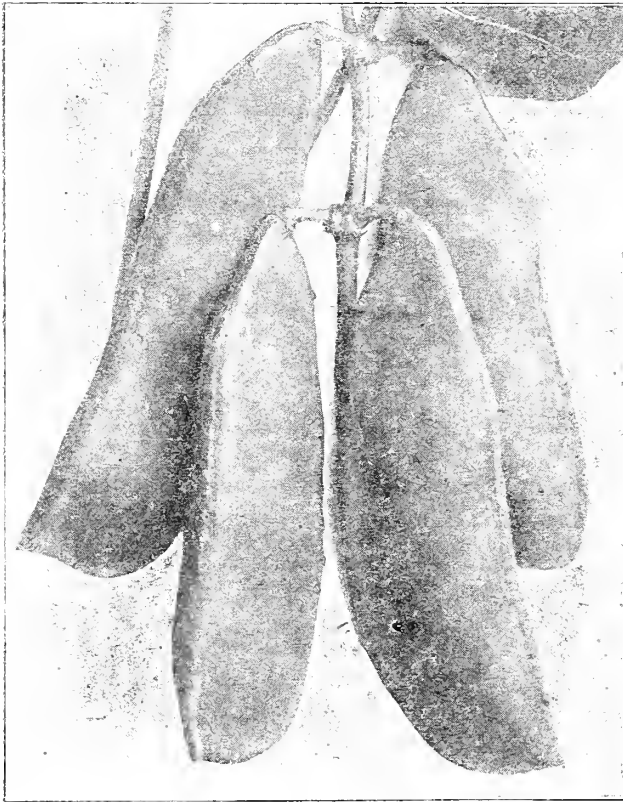
Bush Lima Beans

[SPECIAL FOR MARKET GARDENERS

The Bush Lima cannot be recommended too highly. The beans can be grown and gathered much more easily than the pole limas as the vines require no support. They can also be grown closer together. Dwarf limas are fully equal in quality to pole limas and as a rule are earlier maturing.

Limas require a longer season for maturing than other garden beans. Do not plant till the ground is warm and danger of frost is over. If possible select rich, light soil. Plant in drills two to three feet apart, dropping the beans three to four inches apart and covering one and one-half to two inches deep. Hoe often, but only when the leaves are dry.

Fordhook is the Gardener's Favorite



Fordhook

Fordhook Bush Lima In order to get the best results, plant one foot apart in rows 3½ feet apart. It is an improvement over the well known bush Lima because it is more prolific. It is a strong grower, more resistant to blight, and is more profitable to grow for the market because the pods remain green. This is of great advantage to the peddler, retailer and shipper. It has received universal praise. We recommend it to our customers for both home and market gardens—for the home garden because of its excellent flavor and productiveness; for the market gardener because it is demanded by the shipper and consumer. (Pkt. 10c) (½ lb. 25c) (lb. 40c prepaid) (10 lbs. \$3.50 prepaid).

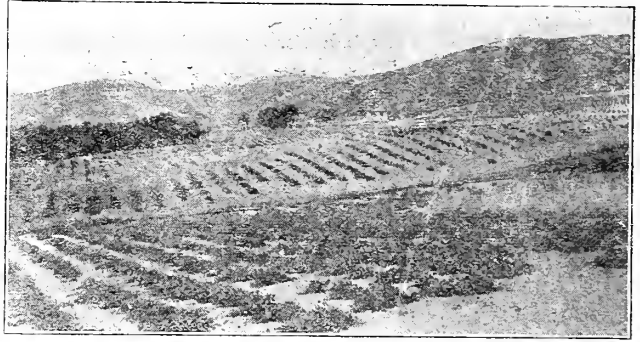
Improved Bush Lima This bean differs from the old bush variety in being ten days earlier. Will yield one-fourth more tonnage per acre. The pods contain four to five beans that are larger and thicker than the old bush lima. Where the Improved Bush Lima is known the old variety is no longer in demand. (Pkt. 10c) (½ lb. 25c) (lb. 40c prepaid) (10 lbs. \$3.50 prepaid).

Henderson's Bush Small white Lima Bean, of excellent flavor and enormously prolific. It is grown so extensively here that it ranks commercially with common limas and other commercial varieties. It is used largely for canning. (Pkt. 10c) (½ lb. 25c) (lb. 40c prepaid) (10 lbs. \$3.50 prepaid). Ask for quantity price.

Burpee's Bush Lima This bean has become very popular with the market gardener in all irrigation districts because it is earlier and more easily grown. There are no vines in the way when irrigating and cultivating. It is enormously prolific and keeps bearing a long time. (Pkt. 10c) (½ lb. 25c) (lb. 40c) (10 lbs. \$3.50) prepaid.

Write for quantity price

Monstrous Lima



This is not a vineyard, but a field of Monstrous Lima beans planted eight feet apart each way. Grown without irrigation at Laguna Beach.

Mr. Bathgate picked one and one-half barley sacks of green beans from one vine at one picking.

Two crops a year for many years. Originated in Orange County, Cal. Introduced by us in 1907. This picture shows actual growth of the bean.

In addition to this we have numerous testimonials to the effect that we have not exaggerated when we claim this to be the largest, most prolific, most profitable and best flavored Lima bean now in existence. Like every other vegetable, it must have proper culture. Plant 6 feet by 6 feet, leaving one stalk in each hill. If convenient, plant in a sheltered place about April 1st. You will then be gathering beans during September and possibly until January. After a while new growth will appear, then prune as you would a grape vine, and by May 1st you have a new crop as profitable as peppers or string beans or any other early vegetable. During July the vines will show age and become mildewed; prune as before and in October you will begin gathering your third crop. Continue pruning twice a year; irrigate and fertilize. (Pkt. 15c) (½ lb. 35c) (lb. 60c prepaid) (10 lbs. \$5.50 prepaid).

There is nothing more profitable in a city garden than a dozen stalks of this wonderful bean. It is a common occurrence for our city customers to tell us of its great productiveness and excellent flavor.

One home gardener writes us that from one pound of seed planted in 1912 he gathered forty-two pounds of dry beans, besides all the green beans the family could use, and in 1913 he planted five pounds of dry beans, and the first planting were then beginning to bear a second crop.

Phenomenal Yield

SANTA MONICA.—Few persons can boast of as high returns per acre from an agricultural crop as can J. Harrod of 1443 Yale street, this city. Mr. Harrod in the fall of 1917 planted two town lots each 48x187 feet, or approximately two-fifths of an acre, to the monstrous Bush Lima bean. It lived through the winter very well and started bearing in the spring of 1918 at least one month earlier than any of the current season's lima crop. The first picking was made June 24 and the last December 14, when the crop was practically gone. Between these two dates Mr. Harrod gathered and sold 6174½ pounds or more than three tons of beans from this two-fifths of an acre. The total cash received from the crop amounted to \$273.94, which is at the rate of \$684.85 per acre. This is believed to be a record for returns per acre from city lot gardening in this section.

ATTENTION MARKET GARDENERS

If you are located in a nearly frostless section and have water available for irrigation, we do not think there is any more profitable crop for you to plant than the Monstrous Lima. Two crops a year indefinitely, about \$600.00 per acre each year. You will have green beans when all other varieties are out. Do not hesitate to accept this advice for its truth has been demonstrated repeatedly. The one serious drawback is the worm that eats the bean within the pod which, however, does little damage to the spring crop.

Henderson Bush (Baby Lima) Grown almost exclusively for canning for which purpose it is used in enormously large quantities; but because of its hardness, its adaptability to unfavorable climatic conditions the acreage has increased to a production beyond the demand, but not beyond consumption.

Unfortunately the consumer is supplied with beans from Siberia while the domestic bean lies in warehouses. A protective measure would greatly aid the bean grower at no additional expense to the consumer but put millions of dollars in circulation here instead of to speculators abroad. This observation applies to other varieties of beans as well as to the Baby Lima.

The Baby Lima is about as hardy as the Blackeye and Tepary and always command a ready market at a better price.

South American Coffee Bean

also called
Spanish Sword Bean

also
Jack Bean



This bean, roasted and ground, makes a most delightful coffee—wholesome and good.

It is a table bean, and has a delightful mild taste and is richer in protein and carbo-hydrates than any bean grown in this country.

It is an unequaled stock food, ground into meal and fed like cottonseed or cornmeal.

It is a land builder, being the king of legumes it feeds largely on the nitrogen in the air and deposits the same in the soil, thus making good rich land out of poor land.

On our trial grounds it grew into an enormous bush like the monstrous Lima with numerous branches covering a space eight feet in diameter.

Mr. R. F. Duckworth, a well known farmer, living at Union City, Ga., formerly president of the "State Farmers Union" of Georgia, in an article in the Atlanta Journal said: "This bean will produce twice as much per acre as corn. The forage is equal to alfalfa and stock eat it readily. I saw horses, cows, sheep, hogs and chickens eating the cured hay, and the feeding value of it and the beans is shown by the following analysis made by the Georgia State Chemist:

Analysis of Bean Leaves

Water	11.45
Fat	5.62
Fiber	10.80
Ash	11.76
Protein	18.00
Carbo-Hydrates	42.37

100.00

Analysis of Bean Meal

Water	10.90
Fat	3.88
Fiber	4.90
Ash	3.07
Protein	23.20
Carbo-Hydrates	50.05

100.00

The beans should be planted in rows 4 feet apart, and should be placed one in a hill 2 feet apart.

The cultivation should be about as for cotton, planting as early as practicable, not to get them frost bitten.

It is a stem plant, branching freely. The stems are readily eaten by stock.

They should be gathered as soon as ripe. After gathering the ripe beans every bush will be as green and full of leaves as in mid-summer, ready to cut as hay or put in silos or "hogged down."

Three Most Valuable Books for California

By Edward J. Wickson, A. M.

Professor of Horticulture in the University of California; Editor of the Pacific Rural Press; Member of the National Council of Horticulture, etc.

The California Fruits and How to Grow Them

Price \$4.00; postpaid \$4.15

The California Vegetables in Garden and Field

Price \$2.00; postpaid \$2.15

California Garden-Flowers, Shrubs, Trees and Vines

Price \$1.50; postpaid \$1.70

These three books are standard and authentic works on these subjects of fruit growing, vegetable raising, and general flower gardening about the home. Written by one who knows California conditions thoroughly. Other books are listed on page 00.

HARDY W. CAMPBELL

Farm Advisor, S. P. Co.,

Mr. Hardy W. Campbell is the man who reduced dry farming to a science. He sacrificed a fortune that the world may be benefited by his observations. He unselfishly devotes his time to compiling and publishing this information, and distributes it freely. If you are a grain farmer ask him for Bulletin No. 10, or if you are a dry farmer of any kind write him describing your soil and telling him what crops you wish to grow.

Mail to the above address or write us for one of the following books published by Mr. Harding W. Campbell: Campbell's Soil Culture Primer, 100 pages.....60c
Campbell's Soil Culture Manual, 350 Paper 2.75.

Lima Pole Varieties

Pole Lima Pole varieties of Limas are far more profitable to grow than the bush varieties; what they lack in earliness they make up in continuous bearing. They should be planted from April 1st until September 1st.

The Skillman Lima This bean has been the market gardener's favorite for many years. It is a cross between the Burpee's Bush and the common lima. It will produce five sacks more per acre than the common lima. Each year we carefully hand-pick our seed stock, selecting only the true type of seed. There are no rattlers in the Skillman. (Per pkt. 10c) (½ lb. 25c) (lb. 40c) (10 lbs. \$3.50) prepaid.

Large White Lima One of the best shell beans, either green or dried. Very prolific; pods large. (Per pkt. 10c) (½ lb. 25c) (lb. 40c) (10 lbs. \$3.50) prepaid.

King of the Garden Very prolific; large and desirable both for the home garden and for the market gardener. (Per pkt. 10c) (½ lb. 25c) (lb. 40c) (10 lbs. \$3.50) prepaid.

Carpenteria This is just the lima for the market gardener to grow for main crop. It is early and large, and enormously prolific, without much vine. (Pkt. 10c) (½ lb. 25c) (lb. 40c) (10 lbs. \$3.50) prepaid.

Early Leviathan We recommend this variety to be planted where it may have a trellis to climb upon. It is the ideal lima for the home garden. It is very productive. The pods grow in clusters. (Pkt. 10c) (½ lb. 25c) (lb. 40c) (10 lbs. \$3.50) prepaid.

Broad Windsor This variety is often called the tree bean because it differs from all other varieties in the nature of growth. It is not a vine or bush but one up-right stalk bearing pods at the axil of each leaf, continuously maturing from bottom to top throughout its period of growth. It is used largely as a green shelled bean. The best time to plant it is in September because it thrives best in cool weather. It endures frost. (Pkt. 10c) (lb. 30c prepaid).

It is one of the best nitrogen gathering legumes, and on this account every garden should have a plot of these beans.

This bean is also mentioned on page 00 devoted to soil renovators. We are indebted to Mr. John House for the suggestion that when grown in the home garden, the tops should be pinched off. The beans will become more fully

The Monstrous Lima Bean



What the monstrous Lima will do in a back yard if trained to grow on an arbor.

Bean Culture Address: College of Agriculture, University of California, Berkeley, California. Ask for Bulletin No. 294, entitled, "Bean Culture in California. It is thoroughly Californian and complete in every detail from preparation of the soil, planting, cultivating, harvesting and marketing.

If you are interested even in a small way it will prove both interesting and valuable. Also write United States Department of Agriculture, Washington, D. C., for Farmers' Bulletin No. 997. It contains some practical illustrations. They will be sent free.

Commercial Beans

Owing to the importation of cheap beans from the Orient there is little encouragement for the American grower. The consuming public get little benefit in price from the imported bean; this advantage goes principally to the importer who fixes the price just low enough to discourage the American grower. It may be, through the agency of the American Farm Bureau Federation there will be organized influence enough to bring about some constructive legislation in the way of protective tariff.

Aside from growing beans commercially, the grower should consider the benefit derived from growing beans other than a good selling price. Beans fill nicely in crop rotation; whether grown for green beans or dry beans, or

only for green manuring, they enrich the soil for a subsequent crop. It is a quick growing crop. For green manuring it may be plowed under within eight weeks; for green beans it is ready in ten weeks; for dry beans the crop may be harvested and marketed within four months. All this means that from April 1st until September 1st it is safe to plant beans, according to the purpose for which you are growing them. For an early crop of green beans, plant Stringless Green Pod; your ground is ready for the next crop within ten weeks. If you would grow commercial beans plant the variety best suited to your soil conditions. If for green manuring the Whip-poor-will seems best where moisture and growing conditions are favorable; the Tepary where unfavorable.



Reading from left to right:—Broad Windsor, Lewis Lima, Red Kidney, Pinto, Pink, Garvanza, Blackeye, Mexican Red, Lady Washington, Navy, Tepary, Lentil.

Be sure to consult us when in the market for these varieties.

If only one pound is desired, send 35c to cover packing and postage. For larger quantities, ask for the prevailing prices.

Ask for price at the time of purchase. Because of the close margin at which this seed is sold, no price can be set in advance of the daily market. We have the best cleaning facilities on the Coast. All our seed is re-cleaned and even hand-picked when machinery fails.

All commercial beans should be planted in large acreage. It is easier at any time to dispose of a carload than less, and more profitable to the out-of-the-way grower who must always pay the freight to some central warehouse. It is advisable for the small rancher when contemplating the planting of beans, to agree with his neighbors to jointly plant not less than eighty acres, as it requires 80,000 pounds to make up a carload for Eastern shipment.

It often requires fifty cents per hundred pounds to ship small quantities to a warehouse, whereas a carload would be shipped direct from your nearest siding at no cost to you, thereby saving to you and your neighbors four hundred dollars on each carload.

Early Washington This new bean was introduced into Tulare County, two years ago. It is ten days earlier than the Lady Washington, is more resistant to mildew and yields several sacks more beans per acre. The appearance is the same but by every comparison this early bean is better than the well known Lady Washington. So much better that all of the first crop was sold to neighbors at fifty cents per pound.

We have secured a limited amount of this seed which we offer. (Lb. 40c) postpaid, (10 lbs. \$3.50) prepaid.

Tepary A small white bean similar to the Navy. The Agricultural Experiment Department has recognized the great merit of the Tepary as a drought resistant bean, and recommended it to be grown on the mesa lands where it is too hot and dry for our common varieties to grow. It is also recommended for a summer cover crop, and soil renovator, as it needs no irrigation. It yields 20 sacks of dry beans per acre. Tepary outclasses all others in yield against unfavorable conditions.

The root growth of the Tepary is different from other beans in that it has two distinct sets of roots diverging from the tap-roots, first near the top like other beans and again several inches deeper. This root system accounts for the Tepary's ability to resist drought.

The Tepary is strongly recommended for green manuring when only a short time is allowed.

Pink, Mexican Red, Red Kidney All three of these varieties are good table beans. The PINK is grown more largely because it is more profitable to the grower and finds ready sale. The MEXICAN RED is the popular bean in Mexico, and should be grown more largely here. As a table bean it is excellent, both as a dry bean and as a green shell bean, and will become more popular as it becomes better known. The RED KIDNEY is an old-time favorite and commands a higher price than other varieties. It is more hardy and more rust-resistant. The pods are long and straight, bearing six to eight beans. It is particularly easy to thresh, yet does not pop in the field.

THE WHITE WONDER A new White Bean of great merit as a string bean for the home or market garden or a commercial bean for the large grower. The bean that will thrive in any condition under which the Pinto will grow or where the Navy will fail.

The bean that will win in any market against the Pinto because for eating, it is equal to, or better.

It is a pure white bean about the size of the Pinto.

It is as hardy and more prolific than the Pinto.

It is earlier, and ready for the thresher in seventy days.

It is classed as a bush bean but inclines to short runners that bear freely.

Mr. Riding, our grower, says, "Give it a strong indorsement as a table bean both green and dry, and say that it showed no mildew or rust."

From thirty pounds of seed planted, Mr. Riding harvested 1600 pounds.

Mr. Planter, do not hesitate to plant this WHITE WONDER BEAN! (Pkt. 10c) (lb. 40c) (10 lbs. \$3.50) prepaid.

DO NOT FAIL TO GET SOME OF THIS NEW BEAN

"The White Wonder Beans I got from you this spring are doing fine under the most adverse conditions. They are setting a fine crop where I am sure other beans would fail entirely."

M. S. RODGERS, Calif."

The Lewis Lima The common lima is grown so largely in California that it easily exceeds in acreage all the other varieties combined. There are many strains of the common limas, but the Lewis is conceded to be the best. Our seed is all carefully rogued in the field and hand-picked under our supervision at our warehouse. You will find no splits nor rattlers in our seed. It is a short-sighted policy to buy cheap seed from grocers.

French White Was introduced at Vista, San Diego County, in 1902, by Mr. Peter Delpy, who brought the seed from France. It at once became popular locally because it is earlier and more prolific than the Lady Washington which it resembles. It is a more rampant grower. The pods are tender and stringless.

Lady Washington and Navy These two varieties go hand in hand. Both are small white beans, but the Navy is slightly smaller and is often distinguished by being called the Small White, while the Lady Washington is called the Large White, yet the largest is a scant half-inch long, while the Navy is scarcely more than one-fourth inch long.

The Navy is more rust resistant.

The Blackeye This bean is always profitable to the grower because it yields 1500 to 2500 pounds per acre without irrigation, and on almost any kind of soil. It is a good cover crop and soil renovator. The beans find ready market at a fair price. Rabbits will not eat the Blackeye.

Pinto This bean originally from Siberia is of such excellent flavor and quality that it has supplanted the pink and all other old time favorites.

Its popularity is also because of its adaptability to arid climate, high altitude and unfavorable soils.

A & M Table Beets

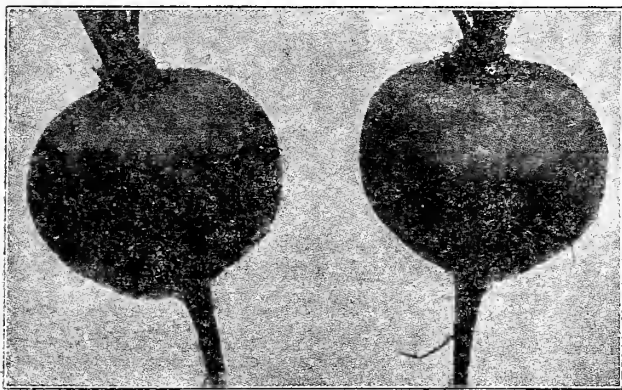
MARKET:—Besides the every-day demand at the local market places, there is the seasonable demand from outside points and for this purpose planting should range from August 1st until January 1st. See the shipper for further information. The canneries too use a large acreage. If you are conveniently located you will be fortunate to secure a contract with one of them.

Culture Beets may be planted all the year round where the temperature does not linger below 25 degrees. Sow the seed one inch deep in well prepared, moist soil in rows eight or ten inches apart, or on ridges same as lettuce. Drill eight pounds of seed per acre. Thin out to one plant every three inches, and transplant the discarded plants in any convenient spot about the garden. The Egyptian is a small, dark red, flat, smooth variety. It is sweetest and best for the table. Irrigate about every two weeks, unless the nature of the soil is such that more frequent irrigation is found to be necessary. Mulch the soil after each irrigation. Beets are ready for use in ten weeks and continue in prime condition for another ten weeks.

Two ounces of seed for 100 feet of row.

Early Flat Egyptian The market gardener's favorite on account of its beautiful appearance, earliness, and excellent flavor. (Pkt. 10c) (oz. 20c) (¼ lb. 45c) (½ lb. 65c) (lb. \$1.25 postpaid).

Early Blood Turnip Of large growth. Flesh very tender and retains its blood-red color when cooked. On account of its tall leaves it is a favorite summer time beet with market gardeners. (Pkt. 10c) (oz. 20c) (¼ lb. 45c) (½ lb. 65c) (lb. \$1.25 postpaid).



Crimson Globe

Crimson Globe This splendid variety has now been grown quite extensively in many sections of the country and the many good reports received from old customers indicate that it gives most thorough satisfaction. It is of medium size, generally about three inches in diameter, very handsome in shape, with a remarkably smooth surface. It has a very small tap-root. Gardeners prefer it for summer planting because the large foliage protects the beet. (Pkt. 10c) (oz. 20c) (¼ lb. 45c) (½ lb. 65c) (lb. \$1.25) postpaid.

Eclipse Is a favorite for the family garden, very sweet, tender and of fine texture. (Pkt. 10c) (oz. 20c) (¼ lb. 45c) (½ lb. 65c) (lb. \$1.25 postpaid).

Early Crosby A long time favorite for the family garden. (Pkt. 10c) (oz. 20c) (¼ lb. 45c) (½ lb. 65c) (lb. \$1.25).

Long Smooth Blood Smooth, growing to good size, color dark red; top small, of upright growth. (Pkt. 10c) (oz. 20c), (¼ lb. 45c) (½ lb. 65c) (lb. \$1.25 postpaid).

A & M Bassano Beet Excels all other varieties for table use. Its delicious flavor, entire absence of fibre, smooth, symmetrical shape and small root puts it in a class by itself for all-round good qualities. The market gardeners have recognized this for years and many will have no other. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (½ lb. 75c) (lb. \$1.50 postpaid).

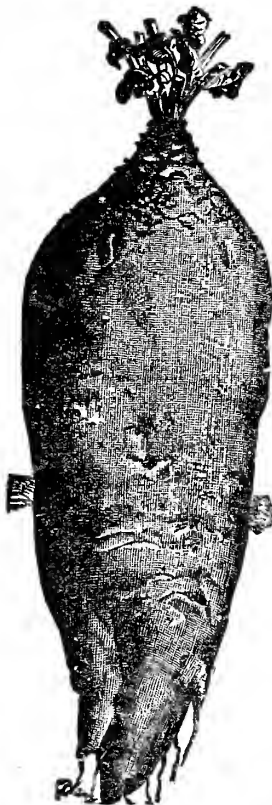
Detroit Dark Red This is an ideal beet for all purposes. It cannot be excelled for the table; free from all fibre and very sweet. It is the best of all for pickling. Even the tops are good when pickled. (Pkt. 10c) (oz. 20c) (¼ lb. 45c) (½ lb. 65c) (lb. \$1.25 postpaid).

When beet tops are young and tender they may be cooked as spinach and are as good. The stem may be par-boiled and pickled for immediate use.

A & M STOCK BEETS

Since the coming of the silo, the planting of beets for stock has fallen down until now only a very small acreage is planted. The silo provides the succulent food necessary to feed with dry forage. The growing of corn for the silo is much more economical, but to the breeder of hogs, small stock and poultry, we recommend the planting of beets. The

Stock beet is one of the finest fat and milk-producing crops we have today, and when fed in conjunction with grain they are worth nearly as much, pound for pound, as the grain itself.



Long Red

Note—Prices on half pound and pound quantities include postage or expressage prepaid. When sent otherwise deduct 10 cents per pound or fraction thereof. If desired sent by Parcel Post, necessary postage should be added. See our Parcel Post Schedule on cover page. If quantities are desired, do not fail to write for special prices, as all field seeds are subject to market fluctuations.

Culture—May be sown all the year round in drills one foot apart. Thin out to stand six inches apart in rows. Keep well cultivated; 8 pounds of mangel, or 10 pounds of sugar beet seed will plant an acre and yield 20 tons or more of beets.

Half Sugar Rose

A distinct type of Sugar Beet, producing not only a good crop but roots of giant size and richest food quality. It has yielded 55 tons per acre, several tons per acre more than the heaviest producers of other sorts on the list. They have a small top, and are easily trimmed. The roots are heavy, but are so easily harvested that they may be up-rooted by a push of the foot. The flesh is white, solid, tender and very sweet and imparts a rich, pleasant flavor to dairy products, when fed to milch cows. Also particularly good for fattening hogs. Half Sugar Rose is a profitable Stock Beet to grow. (Pkt. 10c) (½ lb. 40c) (lb. 70c) (10 lbs. \$6.50 postpaid).

Long Red Mangel

The largest Stock Beet. Yields 40 to 50 tons to the acre. Will grow in land containing more alkali than any other beet. All stock except horses eat it readily. (Pkt. 10c) (½ lb. 40c) (lb. 70c) (10 lbs. \$6.50 postpaid).

Golden Tankard Mangel

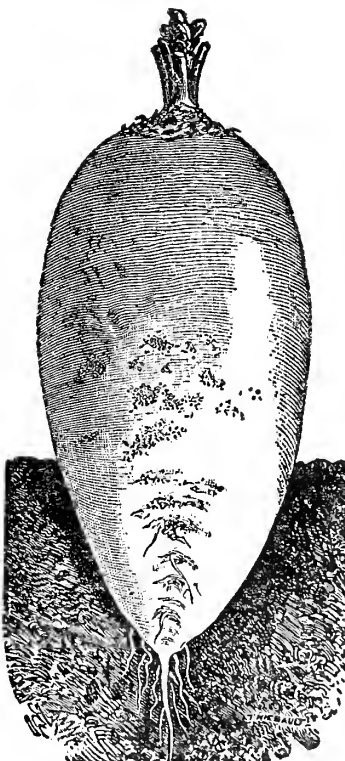
Contains more sugar and less water than any other Mangel. Rich in milk-producing qualities, hence a favorite with dairymen. Horses will eat it. (Pkt. 10c) (oz. 20c) (lb. 70c) (10 lbs. \$6.50 postpaid).

Klein Wanzleben

(Sugar Beet). This variety is without question the best in cultivation. Not the largest in size, but the richest in saccharine. It will fatten hogs as quickly as grain. (Pkt. 10c) (¼ lb. 40c) (lb. 70c) (10 lbs. \$6.50 postpaid).

Sludstrup

This variety is more extensively grown in Holland by dairymen than any other. Its uniform growth of large, well-shaped beets rich in saccharine, its record for producing rich milk and sweet butter,



Half Sugar Rose

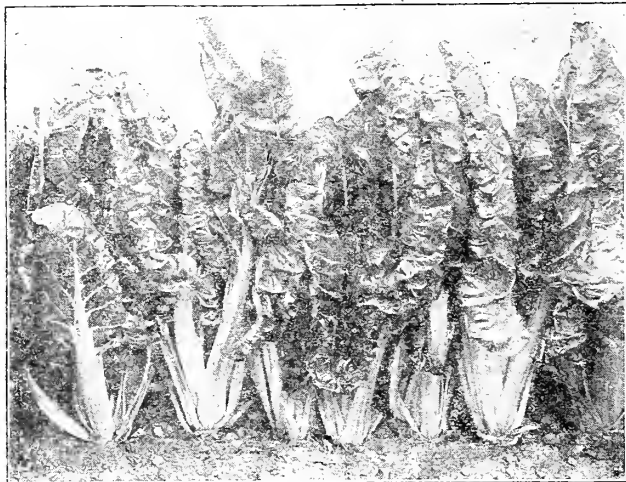
Has made it the popular beet of that country. We are always on the lookout for something better to offer our trade. We are sure you will add dollars to your dairy by planting the Sludstrup. (Pkt. 10c) (¼ lb. 40c) (lb. 70c) (10 lbs. \$6.50 postpaid).

A & M SWISS CHARD

White Swiss Chard

Culture—Same as for beets; transplant 12 inches apart in rows 18 inches apart.

Grown for its leaves only; one of the best early greens. Cook the leaves as you do spinach and the stems in cream as asparagus. Leaves grow to enormous size, 20 inches to 2 feet in length. The plant is almost perpetual if kept trimmed, but it is better to have a new crop every year. The tender leaves make it a desirable plant for poultry greens; much more desirable than alfalfa, because it can be grown with less care and in any convenient place about the premises. Try it for your hens.



Lucullus (Pkt. 10c) (oz. 20c) (¼ lb. 60c) (½ lb. \$1.00) (lb. \$2.00 postpaid).

White Swiss (Pkt. 10c) (oz. 20c) (¼ lb. 60c) (½ lb. 80c) (lb. \$1.75 postpaid).

Culture—Same as Cabbage.

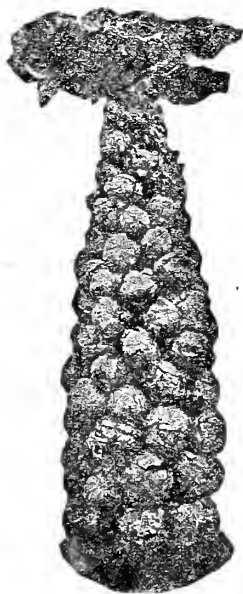
Market:—The demand for Brussels Sprouts is probably in excess of the supply, but the cost of production is so high that it must be classed as a luxury. We recommend it highly for the home garden.

One oz. of seed will produce about 5,000 plants.

For Aphid—Spray with "Black Leaf 40d"

This excellent vegetable, considered the most delicious of all the cabbage family, is finding increased demand in the public markets, and should be grown more largely. It is a long season grower and ranks as to time with our late varieties of cauliflower. Therefore, seed should be planted for succession from July 1st until Nov. 1st.

The increasing demand has spurred us on to look for something better than has hitherto been offered on this market. We have succeeded in securing a medium dwarf variety that bears larger heads, and every joint a head. (Pkt. 10c) (oz. 40c) (¼ lb. \$1.25) (lb. \$4.00 postpaid).



Brussels Sprouts

Complimentary

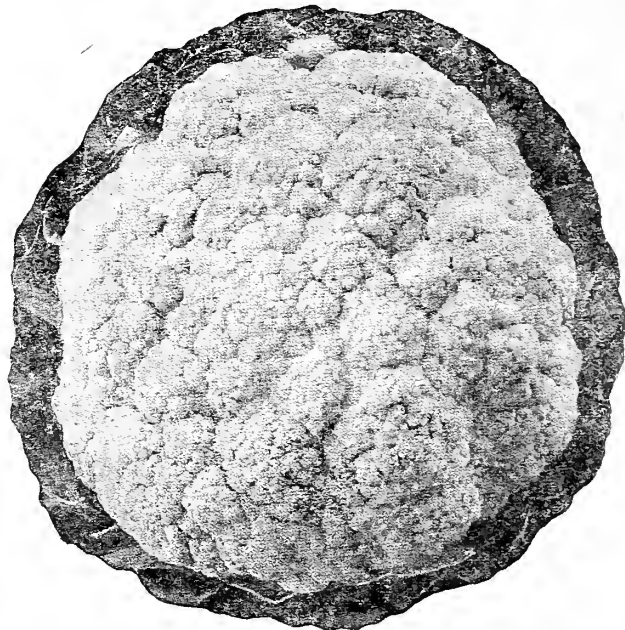
"You are the best firm I ever dealt with. You are so nice about any information asked for. I like your seeds; they are what they are represented, true to type ordered. I was amused at one article in your catalog in regard to good fences, good barns, good stock, good orchards and children enough to gather the fruit. It is our belief exactly as we have only 8, and 7 of them boys. This catalog of yours is the best I have ever read. It is a farm Journal in itself."

"MRS. G. S. ALBRIGHT, Inyo County, Cal."

"We thank you kindly for the very complete catalog which you sent us recently, your 1920 edition. We wish to compliment you upon the very complete and really artistic catalog—one of the nicest that has ever been brought to our attention. ALBERT LEA SPRAYER CO., Minnesota."

Broccoli (A hardy strain of Cauliflower) is grown largely in Oregon. Eighty-four carloads were shipped from the Umpqua Valley in the Spring of 1917.

It is much harder than Cauliflower, readily withstanding a temperature of 15 degrees. Planted in July it matures in April, yielding nearly 100 per cent good heads regardless of weather conditions. Large gardeners will do well to plant it.



St. Valentine

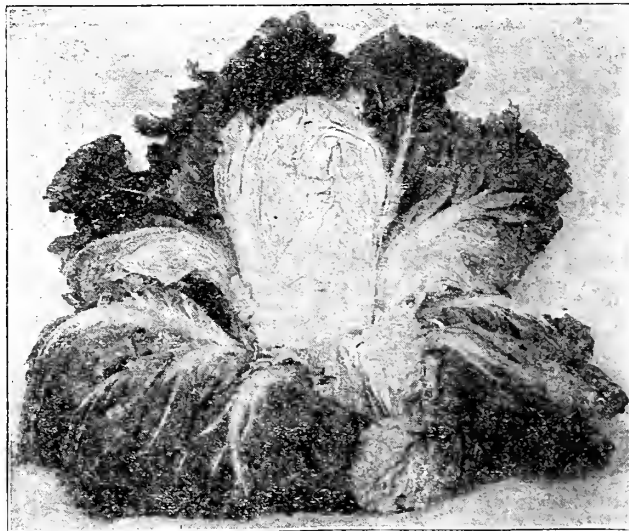
Culture and market the same as Cauliflower.

St. Valentine (A pure white strain) is the best. Our seed is of the English type grown extensively in the north. (Pkt. 15c) (oz. \$1.50) (¼ lb. \$5.00) (lb. \$15.00). ... We have ceased to catalogue other varieties.

The growing of Broccoli in Southern California is no longer an experiment; it has been grown here in large acreage for five years and always with profit. One grower planted ten acres last year that returned \$500.00 per acre. He says it is a sure leader and comes into market after Cauliflower is all shipped.

Our Broccoli seed is from the best stock obtainable, you can get no better.

A & M CHINESE CABBAGE



Chinese Cabbage

Culture—Grow it as you do lettuce; transplant 10 inches apart in rows 12 inches apart.

Boiled with beef or pork it is excellent, having a much more pleasing flavor than cabbage. The inner leaves make better cold-slaw. (Pkt. 10c) (oz. 50c) (¼ lb. \$1.50) (½ lb. \$2.50) (lb. \$5.00 postpaid).

Our seed is imported. It is the genuine article as pictured here and cannot be compared with the Pe-Tsai seed grown in Europe.

A & M Cabbage

Write University of California, College of Agriculture, Berkeley, Cal., for Circular No. 130, entitled "Cabbage Growing in California" by Stanley S. Rogers.

It should be borne in mind that the big planting of cabbage is intended to meet the eastern demand in midwinter and early spring, and that our time of planting is out of the natural season, and therefore often subjected to unreasonable weather which causes it to be stunted and often shoot to seed. The wonder is that any of it matures.

Improper culture, too, will stunt the normal growth of cabbage and cause the heads to prematurely go to seed.

Culture—The secret of growing hardy plants is to thoroughly prepare the soil in the plant bed. Plow the soil to a depth of eight or ten inches, pulverize well. Sow in drills not too freely, about one-half inch deep, press the soil firmly over the seed; this is important. In about six weeks transplant in rows three feet apart, one foot in the row for Winnigstadt, eighteen inches for large-heading varieties. Keep the crop well watered and cultivated for when growth is checked the seed head matures and bursts forth as soon as moisture is again applied. This accounts for much cabbage going to seed. Early varieties mature about three and one-half months after transplanting, late varieties in about five months.

Should there be a cold spell when the thermometer lingers below 25 degrees, just at the time the cabbage begins to head, you may expect twenty-five per cent of your crop to shoot to seed.

One large and constant grower says: "November transplanting escapes the hard winter season that causes so much loss by shooting to flower."

For the Cabbage Worms—We do not hesitate to recommend Paris Green to be used up to two weeks before marketing the cabbage, because the spray only reaches the outer leaves that are not eaten, and because within two weeks the elements neutralize the poison. Also when only one tablespoonful of Paris green is mixed with four gallons of water and kept well agitated there could not possibly be poison enough on a head of cabbage to even make anyone sick. Add 1 cupful of flour paste to make it adhere.

For Aphids—Spray with Black Leaf 40. Direction: One tablespoonful to two gallons of water. Add about one-eighth pound of soap. Add one teaspoonful Paris green to destroy the worm also.

Marketing—The every day demand at the local market should be met with the most palatable varieties like the A. M. Early Drumhead, Copenhagen Market and Glory of Enkhuizen.

Winnigstadt No other vegetable listed in our catalog has retained its popularity so continuously and for such a long time as our strain of Winnigstadt Cabbage, introduced by us in 1896. It is now, and has been ever since that date, the most popular cabbage grown in Southern California. It is popular because it is early, solid, good flavor, sure header, and good shipper. (Pkt. 10c) (oz. 50c) (¼ lb. \$1.65) (½ lb. \$2.50) (lb. \$5.00 postpaid).

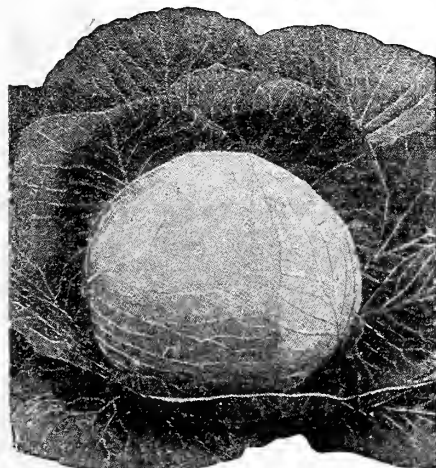
Winnigstadt Cabbage is Worth \$1,000,000 Annually

Henderson Early Summer A good medium-sized early flat head, very desirable for the table. (Pkt. 10c) (oz. 50c) (¼ lb. \$1.65) (lb. \$5.00 postpaid).

Late Drumhead a larger variety used extensively for making Liberty Cabbage. (1 Pkt. 10c) (oz. 40c) (¼ lb. 1.35) (½ lb. \$2.00) (lb. \$4.00) postpaid.

Early Jersey Wakefield Very early, maturing in 90 days. Small head inclined to point like the Winnigstadt. Recommended for home garden where earliness is desired. (Pkt. 10c) (oz. 35c) (¼ lb. \$1.20) (½ lb. \$1.90) (lb. \$3.50) postpaid.

Copenhagen Market



Copenhagen Market

(Pkt. 10c) (oz. 60c) (¼ lb. \$2.00) ½ lb. \$3.00 (lb. \$6.00) postpaid.

Our European grower has given great praise to this variety. It is earlier, larger and better than the Winnigstadt for the local market. It is grown more extensively for the markets of Northern Europe than any other variety. It excels because of its extreme tenderness and delicious flavor, which is compared with cauliflower. We give it urgent recommendation to growers for the home market and for home gardens.

Glory of Enkhuizen The grower when introducing this variety pronounced it the ideal for the home and for Liberty Cabbage, surpassing all others in excellence of quality and flavor. It is similar in shape and habit to the Danish Ballhead, just ideal for the local market. (Pkt. 16c) (oz. 60c) (¼ lb. \$2.60) (½ lb. \$3.00) (1 lb. \$6.00 postpaid).

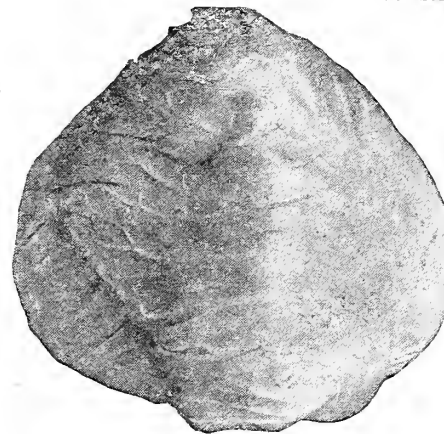
MR. J. H. BECKHAM says—"I transplanted Glory of Enkhuizen Cabbage, September 20, and began marketing December 10, just 80 days. At least 90% headed perfectly. None shot a seed. Heads run about 12 lbs."

Hollander Is one of the best of all the hard heading varieties. The heads are thick, round, of medium size and solid as a rock; of good flavor and heads well in our winter climate. It is a desirable sort for gardeners. (Pkt. 10c) (oz. 60c) (¼ lb. \$2.60) (½ lb. \$3.00) (lb. \$6.00) postpaid.

A & M Early Drumhead Year by year this variety becomes more and more popular. It is very early, tender, crisp, and just the right size for the dealer. Truckers like it because every stalk produces a head. (Pkt. 10c) (oz. 40c) (¼ lb. \$1.35) (½ lb. \$2.00) (lb. \$4.00) postpaid.

Danish Ballhead Since our introduction of this short-headed, it has rapidly grown into popularity with both the grower and the shipper. Why? Because it is a sure header adaptable to all soils. Heads are solid and uniformly round. It is a good shipper and is not surpassed for table use. (Pkt. 10c) (oz. 60c) (¼ lb. \$2.00) (½ lb. \$3.00) (lb. \$6.00) postpaid.

A & M Scott's Cross



Scott's Cross

Dutch. It promises to outrank the Winnigstadt, but up to the present time there has been some variation as to its type and uneven maturing, but it is such an excellent cabbage because of its hardness that we have contracted with our seed grower to make a perfect type by selection. Our 1919 crop is a perfect type of the Scott's Cross, as pictured here. We received our 1919 crop of selected pedigreed seed in November. We wish all cabbage growers to give it a trial this spring, that you may not hesitate to plant it next fall. (Pkt. 10c) (oz. \$1.00) (¼ lb. \$3.35) (½ lb. \$5.00) (lb. \$10.00) postpaid.

All Seasons The heads are extremely solid, round, flattened on top and ready to market nearly as early as Early Drumhead, while considerably larger in size. It is called "All Season," because it is as good for autumn or winter as for early summer. (Pkt. 10c) (oz. 50c) (¼ lb. \$1.65) (½ lb. \$3.00) (lb. \$5.00) postpaid.

Large Late Flat Dutch A large sure header. A standard sort for late crop. Preferred for making liberty cabbage. (Pkt. 10c) (oz. 45c) (¼ lb. \$1.40) (½ lb. \$2.25) (lb. \$4.25) postpaid.

American Drumhead Savoy The best of all Savoy. Short stump, large size, solid head. (Pkt. 10c) (oz. 50c) (¼ lb. \$1.65) (lb. \$5.00) postpaid.

Improved Red Heads of deep color and remarkably solid. Excellent for slaw. (Pkt. 10c) (oz. 50c) (¼ lb. \$1.65) (lb. \$5.00) postpaid.

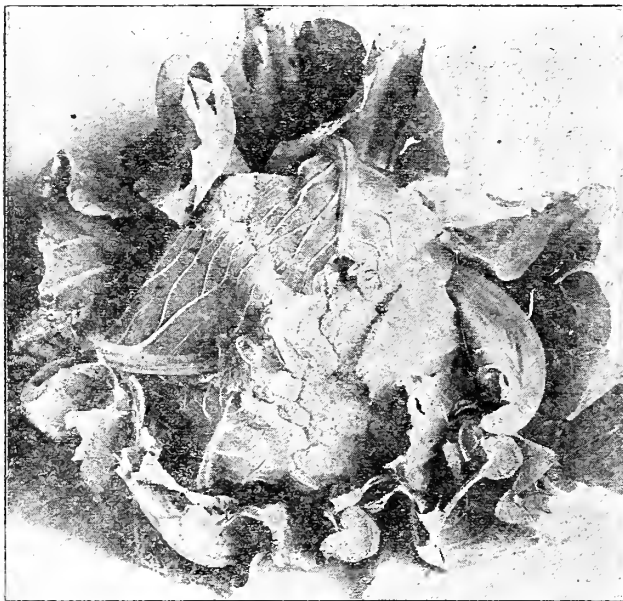
Autumn King For four years this Giant Cabbage has astonished all who have seen it at the market. Heads weighing from forty to fifty pounds are not uncommon. It is tender and of excellent mild flavor, ideal for Liberty Cabbage, and it will yield more tons of good cabbage per acre than any other variety. (Pkt. 10c) (oz. 70c) (¼ lb. \$2.35) (½ lb. \$3.50) (lb. \$7.00) postpaid.

A & M Cauliflower

Cauliflower Seed The fact that our customers continue to buy from year to year is the best evidence that our seed is satisfactory.

Market:—The local market consumes and distributes great quantities of early Cauliflower beginning October 1st and throughout the season until July, but it is the shipper who disposes of several thousand carloads. 25c a dozen heads was considered profitable, but last season the prevailing price was much higher.

Culture.—Prepare the soil as for cabbage. Seed may be sown from June to the following March. Transplant when the plants are six to seven weeks old. When the stems have become hardened in the bed they will be likely to head prematurely. Set out the plants 18 inches apart, in rows three feet apart. Cauliflower should be kept growing constantly, as it may be injured by a check in any period of its growth, and go to seed; hence, irrigate freely. One ounce of seed produces 2,000 plants; requires six ounces to plant one acre.



California Pearl

Trimmed to Ship

Worth \$800,000 annually

California Pearl Cauliflower This variety is a favorite from California to New York, because of its excellent shipping qualities. It originated here and has made Southern California famous for her excellent cauliflower. The California Pearl is thoroughly adapted to our mild winter climate and is particularly suited for shipping because of the flower being completely enveloped within spiral curled leaves, which protect the flower from injurious exposure to rain, sunshine or frost, but particularly from injury in packing and in transit. It retains its fresh appearance longer than any other variety. It is decidedly the shipper's favorite. It is the gardener's, the dealer's and the consumer's favorite. To be packed for shipping it is only necessary to cut the stem at the base of the head, and the leaves about two inches above the head. This leaves foliage enough to cover the crown without wrapping in paper. These heads are packed two layers in a crate (16 inches deep), with the base at the top and bottom, the crowns facing the center, usually 24 heads per crate.

The small grower may plant at any time from May until February, but for profit the shipper should carefully pursue instructions given with each variety.

When you consider that the amount of cauliflower shipped from California each year runs into thousand of carloads, valued at nearly \$1,000,000, and practically all of it is the California Pearl, the value of this type is of so great importance that we are proud to have been the introducers of it.

Early California Pearl Attains a height of three feet. Plant seed from June 1st until November. In six to eight weeks transplant twenty inches apart in rows two and one-half feet apart. (Pkt. 10c) (¼ oz. 65c) (oz. \$2.00) (¼ lb. \$6.65) (lb. \$20.00) postpaid.

Late California Pearl Attains a height of three to four feet. Plant seed July 1st to March 1st. In six to eight weeks transplant two feet apart in rows three and a half feet apart. (Pkt. 10c) (¼ oz. 65c) (oz. \$2.00) (¼ lb. \$6.65) (lb. \$20.00) postpaid.

Large Algiers One of the old standard reliable varieties that never disappoints the grower regardless of locality.

It is late maturing, plant seed in July, it will be ready to market in December and January. (Pkt. 15c) (oz. \$1.50) (¼ lb. \$5.00) (lb. \$15.00) postpaid.

Extra Early Snowball Has proven perfectly satisfactory. Planted in June it can be marketed in November. It is the best early cauliflower yet offered by any seed house. (Pkt. 25c) (¼ oz. \$1.50) (oz. \$4.50) (¼ lb. \$15.00) (½ lb. \$22.50) (lb. \$45.00) postpaid.

California Mammoth Medium early. Is the largest in the world. It is not uncommon to attain 16 inches in diameter, while 10 and 11 inches is the average. It is of California origin. (Pkt. 10c) (oz. \$2.60) (¼ lb. 6.65) (lb. \$20.00) postpaid.

Autumn Giant Heads large, firm and compact, thoroughly protected by foliage. (Pkt. 10c) (oz. \$1.20) (¼ lb. \$4.00) (½ lb. \$6.00) (lb. \$12.00) postpaid.

Danish Giant or Dry Weather Dry Weather Cauliflower merits the confidence of all growers as an all year round variety. It has proven conclusively to be the best for early planting. We give it special recommendation for the first early and late planting. (It requires rich soil and good cultivation, but will withstand more drought than any other variety. (Pkt. 25c) (oz. \$4.50) (¼ lb. \$15.00) (½ lb. \$22.50) (lb. \$45.00) postpaid.

Read This

L. Worthington, manager of our Market Branch, reports as follows in regard to the different varieties of Cauliflower: Plant no variety of Cauliflower earlier than July 1st to get the best results.

Snowball Cauliflower seed planted June 1st will be ready to cut about October 15th, and the crop will all be harvested about February 1st, as it heads more evenly than the other varieties.

Late Cauliflower seed planted July 1st will be ready to cut about January 15th and will finish about March 1st.

Snowball Cauliflower plants should be transplanted at from 35 to 40 days after the seed is sown. If they are left too long in the seed bed it causes more or less of them to go to seed in the fall. The other two varieties can be left in the seed bed from 45 to 60 days without being detrimental to the crop. You must always bear in mind that anything that causes the plant to stop its growth any time either in the seed bed or in the field will cause the plant to go to seed, hence to get a successful crop keep the plant continually growing from the time the seed germinates until the flower is formed.

Per Packet 10 Cents

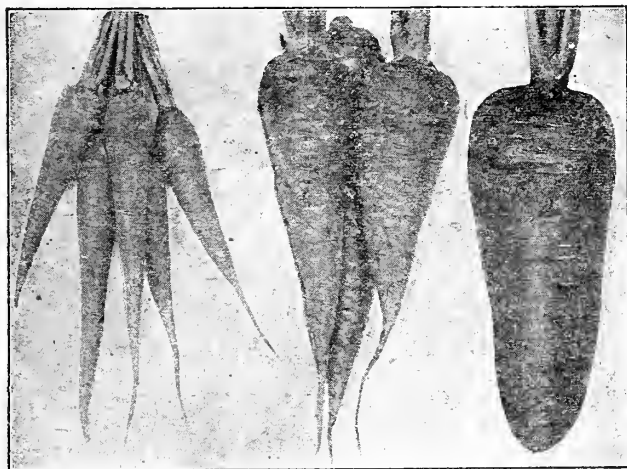
Prior to the general advance in price of commodities there was a profit in selling packets of seed at 5 cents. But seedsmen throughout the country have been brought face to face with a loss in the most expensive department of the business,—the increased cost of lithographed packets: the high wages paid for filling them; the 100% advance in the cost of seeds,—all this plus the higher rents, higher rate of interest and the overhead expense, has compelled the management to make higher prices, or have a balance on the wrong side of the ledger.



PACKET SEEDS THAT GROW

Look for this case. If your dealer does not carry Aggeler & Musser Seed Co.'s packet seeds, request him to get them, because we do not put our seeds out on commission. Commission seeds are put up and placed on sale throughout the country in August, long before new crop seeds are harvested. Therefore the seeds are at least one year old before they are put into packets. Our packets are never put up until the new crop seed has been delivered. You are sure to get fresh seeds when you buy from the AGGELER & MUSSER SEED CO.'s CASE.

A & M Table Carrots



Long Orange

Chantenay

Danver

Culture—Sow one ounce of seed to 100 feet of row, four pounds per acre.

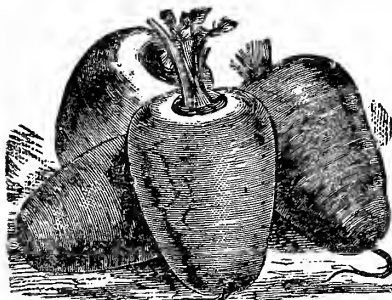
Carrots are very profitable because of the large quantity that a small patch can produce, and there is no waste, as any surplus may be fed to rabbits or other animals.

Carrots may be planted all the year round. Sow the seed from one-half to one inch deep in rich, moist, loamy soil, well prepared. Sow in rows eight inches apart, and as thin as the drill can be set to sow, or, if sown by hand, aim to have two seed to the inch, or sow on ridges same as lettuce. Plant the Oxheart variety. It is the best for the table, and the most attractive for the market. The carrot has few insect enemies. Nematode is the worst. Irrigate same as for beets. Carrots are ready for use in eight weeks and remain palatable for six months or longer.

Market:—The local demand for Carrots is all the year round, but the chief demand is from the shipper who wants them from December 1st until May. For this trade the seed should be planted in August and September. The shipper wants the Chantenay, Oxheart and Danver Half Long.

There are many rabbit hutches within the city where carrots are used throughout the year. If you live a convenient distance from one of these places you may be able to secure a contract from the owner to furnish carrots.

Early French Forcing



French Forcing

A small sort but desirable on account of its extra early habit. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) postpaid.

Danvers Half Long

The roots are smooth and of a rich, dark orange color. One of the best sorts for a main crop, because it remains edible in the field longer than other varieties. (Pkt. 10c) (oz. 20c) (¼ lb. 45c) (lb. \$1.25) postpaid.

Guerande or Oxheart Beautiful shape and color. The roots generally attain four or five inches in length and about three inches in diameter. Quality first rate, very tender, like the Early Gem, is the market gardener's favorite. (Pkt. 10c) (oz. 20c) (¼ lb. 45c) (lb. \$1.25) postpaid.

Improved Long Orange A deep orange colored variety adapted for farm or garden culture. (Pkt. 10c) (oz. 20c) (¼ lb. 45c) (lb. \$1.25) postpaid.

Chantenay Flesh is a deep golden orange color, always smooth and fine in texture, very tender. (Pkt. 10c) (oz. 20c) (¼ lb. 45c) (lb. \$1.25) postpaid.

A & M Early Gem Somewhat resembles the Guerande or Oxheart, but is more uniform in shape, of finer texture and almost entirely free from the core usually found in other varieties. Flesh deep yellow, very tender and delicious in flavor. The roots generally attain from four to five inches in length and about three inches in diameter, although they have been grown to nearly double these dimensions. For bunching, the handsome appearance is a marked advantage over all other varieties. It is a favorite with many market gardeners. (Pkt. 5c) (oz. 15c) (¼ lb. 50c) (lb. \$1.50) postpaid.

A & M Stock Carrots

Carrots are healthy food for stock of all kinds, and should be more generally grown.

Culture—Drill in rows 12 inches apart, and thin to three inches apart in the row. It requires five pounds of seed to plant an acre.

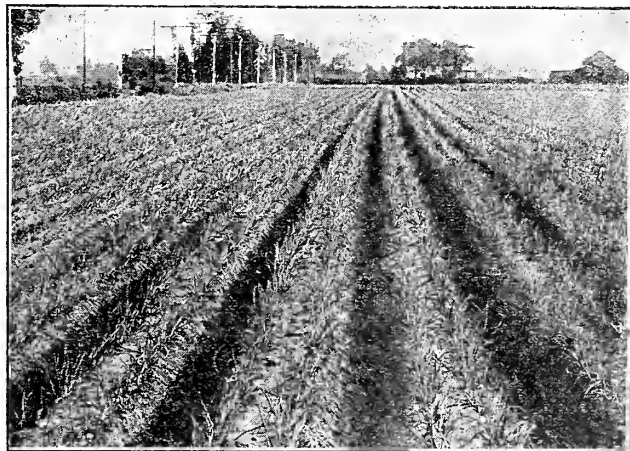
Half Long White Belgian Is raised exclusively for stock. Grows to a very large size; is easily gathered. Makes splendid food for cattle, horses and hogs; known to yield forty tons per acre. Will keep four or five months after pulling. (Pkt. 10c) (oz. 20c) (¼ lb. 40c) (lb. \$1.10) postpaid.

Large Yellow Belgian Is similar to the above, but with a light orange color; said to be richer, but does not keep so well. (Pkt. 10c) (oz. 20c) (¼ lb. 40c) (lb. \$1.10) postpaid.

Half Long Giant White The largest of all stock Carrots, and desirable because it does not grow to a great depth, and although six inches in diameter, there is no hard core. (Pkt. 10c) (oz. 20c) (¼ lb. 40c) (lb. \$1.10) postpaid.

Mastedon (Cow Horn) Desirable because it stands well above ground, thus being easily harvested. Although six inches in diameter, there is no hard core. We give the Mastedon special recommendation to dairymen. (Pkt. 10c) (oz. 20c) (¼ lb. 40c) (lb. \$1.10) postpaid.

Notice in this picture the method of planting two rows on a ridge. It is now generally practiced by the large gardeners, and should be applied in the home garden. The drainage this method affords produces cleaner, better and earlier vegetables.



The proper way to grow vegetables where irrigation is necessary.

The following is a list of vegetables that should be planted the way we have illustrated in the picture:

Beets	Lettuce	Radish
Chard	Onion	Salsify
Carrot	Parsley	Spinach
Kohl Rabi	Parsnip	Turnip

Agriculture is a Science

The successful grower of the "Great Southwest" is an expert in his line. He has all United States for a market during the winter months, and all the arid Southwest in the summer time. He must consider well his soil, be an expert in the selection and use of fertilizers, in the selection of his seed suited to his soil, to his climate, to the time of planting and the market for which he intends to grow. He must know to perfection when to irrigate to cultivate, and when not to do so. He must also know when and how to plow. He must not only keep posted as to market conditions and prices, but must figure ahead on these conditions.

When giving consideration to their approximate yields and values, take into account the cost in labor, irrigation, time to mature, and expense of marketing. All these figure in determining the net profit. Then consider too the adaptability of each crop to your soil and the purpose for which the crop is intended. All must be considered when deciding the advisability of planting field crops.

When in doubt buy Aggeler & Musser's seeds, and always consult AGGELER & MUSSER SEED CO. on all the above subjects. And keep this catalog.

A & M Celery

Culture—Sow one-half ounce of seed to 100 feet of drill; $\frac{1}{4}$ lb. per acre. Sow the seed from Jan. 1st to May 1st, in drills six inches apart, not too thick in the row to secure stalky plants. In June when the plants are strong, transplant to furrows three feet apart and six inches deep. Set the plants six inches apart in the furrows; as the plant grows fill the earth toward the plant to secure proper bleaching. Never allow dirt to rest on the heart of the plant. Never work in celery when it is wet with rain or dew. Spray frequently with Bordeaux.

"Last year I sold \$540.00 worth of celery from $\frac{1}{8}$ of an acre, some of it bringing \$6.00 per 10 in crate."

Peter Gardner, Fla."

HINTS TO MARKET GARDENERS

California Golden Self-Blanching Celery

Write College of Agriculture, Berkeley, Cal., for Bulletin No. 208, entitled "The Late Blight of Celery."

Celery Rot—Do not allow water to stand during the heat of the day after irrigating. It will cause Celery Rot in the early crop.

Seed Stem—Cultivate as soon as possible after irrigation; also when transplanting hot house plants, see that they are thoroughly hardened to the weather before transplanting. We are indebted to Rice Brothers for this information, and they demonstrated conclusively that this is correct. Failure to adhere to this rule will account for much of the celery going to seed.

Hollow Stem—When the growth is rank and the stalks so close that free ventilation of air is retarded during the hot weather, the stems become soft and hollow; therefore, we recommend single-row planting.

Market—The local consumption and outlying distribution disposes of a very large acreage, but owing to its erratic nature it requires peculiar soil and professional culture. Therefore, there are few localities where it can be forced to earliness. May, June and July celery brings a high price to the grower. Then there comes an oversupply until the snipper disposes of it. When a surplus exists cold storage is resorted to, with doubtful profit, on account of the perishable nature, the shrinkage and the expense.



California Easy-Blanching Celery

Easy Blanching Celery An early green top variety in eastern celery growing sections because it requires only a few days to produce a marketable blanched celery. The advantage of this is apparent to the professional celery grower because it obviates that a large percentage of loss always incurred during the process of blanching. (Pkt. 10c) (oz. 40c) ($\frac{1}{4}$ lb. \$1.35) ($\frac{1}{2}$ lb. \$2.00) (lb. \$4.00).

Celery Seed for Flavoring Per lb. 50c postpaid.

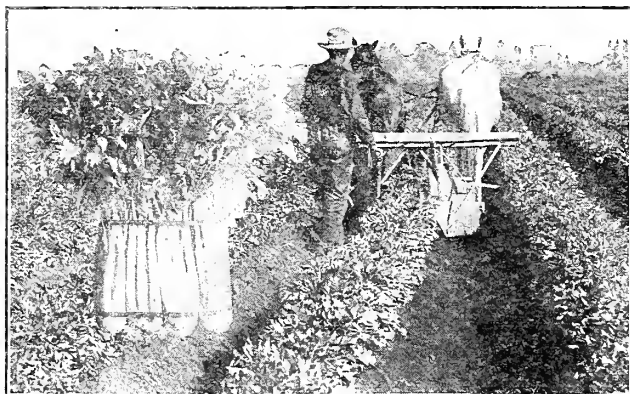
TAPE FOR TYING CELERY

Spools containing 1000 yards in Red, White or Blue. \$6.75 per spool.

Dr. G. H. Coons, of the Michigan Agricultural College, discussed Celery diseases. Among the important Celery diseases in Michigan are early blight, red spotting of Golden Self-Blanching caused by bacteria and the yellows or stunt disease. Easy-Blanching is practically resistant to this disease.

COMPLIMENTARY

The catalog of the Aggeler & Musser Seed Co., Los Angeles, Cal., is especially interesting, for they grow many things in California that we don't know anything about and they need special strains adapted to the climate. An interesting feature of this catalog is the article entitled "The Seedsman," in which H. L. Musser explains some of the difficulties that beset even the most conscientious seed dealer and ideals toward which progressive seedsmen are striving. After reading this carefully-prepared article, one is convinced, with Mr. Musser, that a "conscientious, painstaking, seedsman is an educator and up-builder in his community." Market Growers Journal, Louisville, Ky."



GOLDEN SELF-BLANCHING

\$300,000.00 Crop

Golden Self Blanching (California grown seed.) Another year has demonstrated that our strain of California grown seed is equal to the imported in producing good celery.

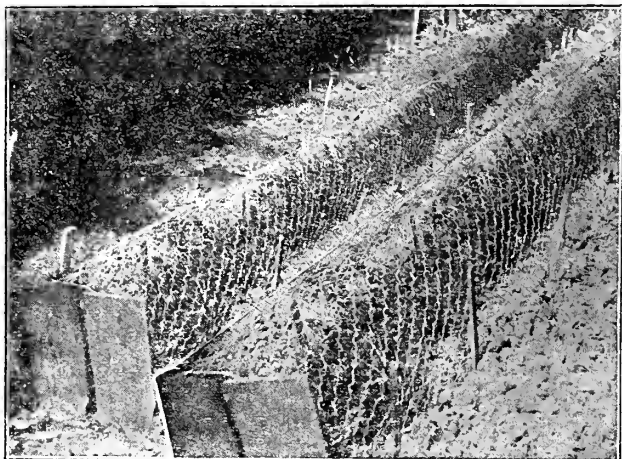
Every grower in Florida who tried our California grown seed in 1917 have ordered ever since in larger quantities. Our seed is now accepted by all who have used it as fully up to the imported. We offer it to you with our full recommendation. (Pkt. 15c) (oz. \$1.50) ($\frac{1}{4}$ lb. \$5.00) (lb. \$15.00) postpaid.

California Grown Golden Self-Blanching Celery Seed is now the accepted standard throughout the United States, and is giving such complete satisfaction that American growers are accepting it with absolute confidence, asking only to know the reliability of the seed. That ours is reliable is proven by a three-year record of satisfied growers.

Giant Pascal It is a green top, much superior to the California green top. It is a great favorite in the eastern gardens. (Pkt. 10c) (oz. 35c) ($\frac{1}{4}$ lb. \$1.20) (lb. \$3.50) postpaid.

Calif. Giant White Plume Best for home garden. We have now the grandest strain of White Plume Celery ever offered to the market gardener. One stalk frequently weighs above five pounds. It is solid, and crisp, with a decidedly salty flavor derived from the alkaline soil in which it was grown. On the peat lands it attains its highest perfection. (Pkt. 10c) (oz. 35c) ($\frac{1}{4}$ lb. \$1.20) (lb. \$3.50) postpaid.

Smooth Prague, Celeriac A large celery flavored root used extensively for flavoring soups, pickles, etc.; also relished sliced as a salad. (Pkt. 10c) (oz. 25c) ($\frac{1}{4}$ lb. 85c) (lb. \$2.50) postpaid.



A valuable suggestion to the small gardener

One inch mesh wire netting, two feet wide arched over the row of lettuce is a sure protection against birds, chickens or other animals about the place. It is economical because it may be used repeatedly for many years.

A & M Sweet Corn

Note Prices given include postage or expressage prepaid.

Market.—There is a uniform local demand for sweet corn throughout the season, from the earliest day it is offered until the last field is harvested. Therefore, prepare to have some coming all through the season. Oregon Evergreen has not been surpassed since we introduced it. It is yet the best for the market gardener and the most productive.

Culture—Plant from February 15th to September 1st in hills 18 inches apart, in rows three feet apart. Allow two stalks to the hill, break off all side shoots; cultivate after each irrigation until the corn shades the ground; irrigate every two weeks until in the milk, then once or twice a week, and this will produce a solid tight husk, which will prevent the worms from doing much damage.

We are ever on the lookout for something better than that which we have. We are constantly trying out new varieties that show merit, but we studiously refrain from offering to our customers anything new unless it is better than that which we have. It is this policy that has kept the Oregon Evergreen so prominently before you for many years as the money-maker for the market gardener.

A & M Oregon Evergreen

Oregon Evergreen Corn now has the endorsement of every gardener that grows for the Los Angeles market. We are safe to say that any gardener growing this will show to his customers its superiority over all other sweet corn. It is many years since we first offered this new and distinct variety. The demand has grown each year until it is now practically the only variety offered on the Los Angeles market. The advantages of this corn over all others are its earliness, its large size, rarely less than eight inches long. The grains are full to the tip.

Oregon Evergreen

The husk is very thick and folds so tightly over the grains that the worm does very little damage, compared with other varieties. It is desired by the peddler and groceryman because of its thick husk, and it can be held over two days before it appears old or wilted. It is very productive, often bearing five marketable ears. (Pkt. 10c) (1 lb. 40c) (10 lbs. \$3.50) prepaid.

A & M Early Adams This is a blend between the Oregon Evergreen and the Eastern Extra Early Adams. The superiority of this strain over the former eastern-grown Adams is shown in its earliness, large size and sweetness. It is nearly as good as the Oregon Evergreen, and is earlier and harder. It is one of the many good things that originated here. Although it may be frosted when six inches high it will come again.

(Pkt. 10c) (lb. 40c)
(10 lbs. \$3.50) prepaid.

A & M Larage Adams

This is the best market variety to plant in August and September for late crop. It will mature in 56 days. (Pkt. 10c) (lb. 40c) (10 lbs. \$3.50) prepaid.

Golden Bantam

Probably the very earliest variety grown. Very sweet, none better for the home garden for first early. (Pkt. 10c) (lb. 40c) (10 lbs. \$3.50) prepaid.

Country Gentleman

A delicious sweet corn. The ears are somewhat smaller and less showy than the coarser varieties, but for private family use, where quality is preferred to size, it is excelled only by the Golden Bantam. The cob is very small, giving great depth to the kernels. The great merit of "Country Gentleman" is its fine quality. It matures in ten weeks. (Pkt. 10c) (lb. 40c) (10 lbs. \$3.50) prepaid.

Stowell's Evergreen

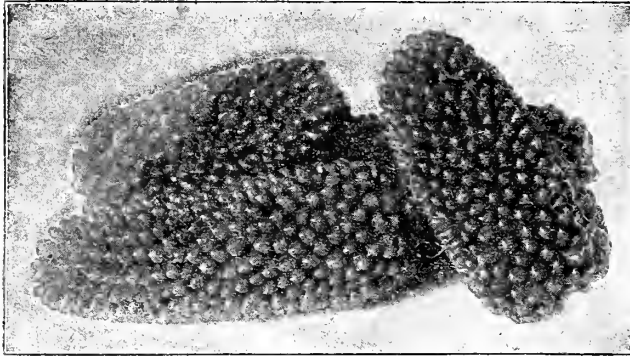
If planted at the same time with earlier varieties and at intervals of two weeks until July 1st, it will keep the table supplied until November. It is hardy and productive, very tender and sugary, remaining a long time in a fresh condition suitable for cooking. (Pkt. 10c) (lb. 40c) (10 lbs. \$3.50) prepaid.

Black Mexican

One of the best sweet corns for this section. Deliciously sweet and tender and very productive. (Pkt. 10c) (lb. 40c) (10 lbs. \$3.50) prepaid.

"You have the most valuable and instructive catalogs I have ever seen, and I trust you will keep my name on your mailing list. Am willing to pay for it. Thanking you,
J. S. Colyar, Fla.

Pop Corn



Doll Pop Corn

Rice Sharp pointed grain is preferred by vendors, but is not profitable to grow here at usual price because of the devastations of the worm. **Per (Pkt. 10c) (lb. 30c) (10 lbs. \$2.50) prepaid.**

Pearl This is the variety so extensively grown locally. It yields enormously and at the present price is very profitable. **(Pkt. 10c) (lb. 30c) (10 lbs. \$2.50) prepaid.**

Yellow Large smooth grains of Golden Yellow color. It pops large, has excellent flavor and is the most profitable to grow. **(Pkt. 10c) (lb. 30c) (10 lbs. \$2.50) prepaid.**

Doll Pop Corn The best of all for the home garden. The commercial pop corn roaster prefers it, saying it is the best of all, but he cannot get enough of it because the comparative yield is small, therefore, not profitable to grow in large acreage. But for the home it very much excels other varieties. **(Pkt. 10c) (1/4 lb. 20c) (lb. 50c) postpaid.**

The Gardner of the Southwest

Throughout the southwest and in California particularly there may be some vegetable crop ready for the market each month of the year.

Have ready for the shipper some crop in November, December, January, February, March, April and May.

Have something for the canner—spinach and beets in March and April; tomatoes in July, August, September and October; pumpkins in November and December.

If in doubt what to plant see us about it.

See the list of books offered on Page 4.

OUR STORE AT 620 SO. SPRING ST.

It is our aim that our store at 620 So. Spring St. will be so conducted that every customer will receive such courteous treatment that it will be a pleasure to return. We wish to have on hand during each season all seeds and plants needed to make the home garden complete.

All clerks are trained to give correct advice on matters pertaining to gardening, but we request that you read this catalog carefully on all subjects in which you are interested; you will find much helpful information.

Take advantage of our call counter. See page 12.

Complimentary

"Yours of the 23rd reached me a short time since; also the catalog for which accept my thanks. This is the best got up catalog and the most comprehensive book of its kind that I ever saw. Both Mrs. and myself are studying it so we may get the best results with the garden. Whoever got this edition up certainly deserves a lot of credit."
"B. F. STERN, Humboldt Co., Cal."

"A short time ago I sent for your annual catalog and was delighted when I received it to find so full and plain description of the seeds and plants you have for sale and the minute and full directions for planting and cultivating them. I will say that your catalog is one of the best, if not the very best I ever saw and I have been raising gardens for more than fifty years, as I am in my 82nd year of age."
CAPT. WM. J. MAY, San Diego Co., Cal."

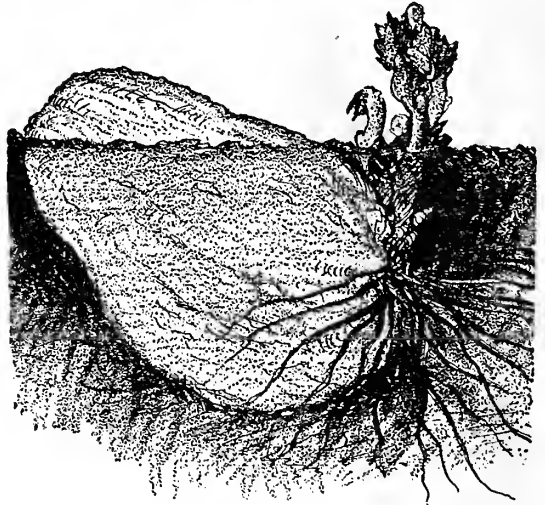
"Will you kindly mail your 1920 catalog to my address. I always look for seeds of Aggeler & Mussel Seed Co. as they have proven to be the best. I can fully recommend them and always plant the best."
W. O. FIELD, Nevada."

"I received the seeds you sent. I tried if it sprouted and everything grew up fine. From now on I will order seeds from you every time when I want seeds."
"MATSUKICHI KANAI, Kealia, T. H."

"We received your 1920 catalog; it is the most interesting and helpful catalog we ever saw."
"MRS. J. F. STEWART, Riverside County, Cal."

"Your last catalog is a wonder; best I ever saw for practical suggestions."
RALPH DANIELS, Contra Costa Co., Cal."

A & M Chayote



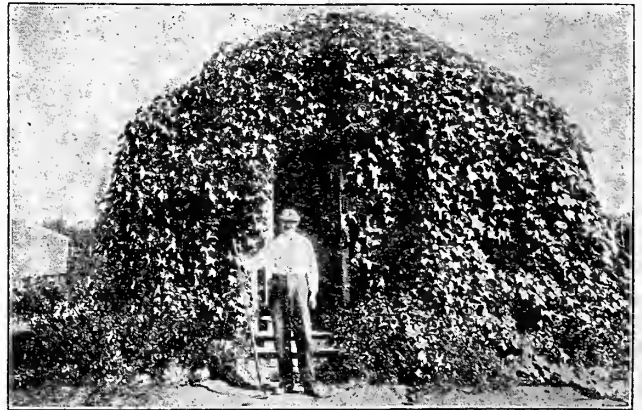
Chayote As It Should Be Planted

The Chayote is no longer a novelty. It has now become an article of commerce. It may be found on sale at every grocery store throughout the season, which lasts from October until March.

The vine is a rampant grower. The first year from seed it will grow twenty to thirty feet. Destroyed to the ground by frost, it soon sends out new growth, and during the second season will extend vines forty or fifty feet in every direction. During September it starts blooming, having a small white insignificant flower. Within four weeks the fruit is large enough for the table. One vine in two years if properly trellised will produce more than one thousand fruit.

Cultural Directions One fruit envelopes one seed, which sprouts from the large end. Plant where you intend it shall grow. Cover only the large end, leaving the small end exposed. (See picture.) Or let the fruit lie around until it has well sprouted, and then plant the seed, leaving the sprout well above ground. Water freely and do not be alarmed if frost should destroy it. A new shoot will soon appear. Give it abundance of water throughout the hot summer season.

Because of many complaints of failure to get them started we offer them already rooted. Rooted vines 50c each, postpaid. One Chayote not rooted, 25c.



Cottage Covered with Chayote Vine

RECEIPTS

Parboil, chop and casserole with tomato, onion and green peppers.

Fry as egg plant. Prepare as summer squash.

Use small ones, without peeling, boil until tender, cut in half, put a small lump of butter, a little sugar, salt and pepper on each one. Put in oven a few minutes.

For larger ones. Peel and cut into cubes and boil; when done, drain, add butter and seasoning and fry in pan. Let simmer until butter burns. Just before serving put tablespoonful of vinegar on them.

Parboil young ones and serve as salad with mayonnaisse dressing or with boiled dinner as turnips.

Chayote Pudding—Boil the Chayote, mash, and rub through a sieve. To one and one-half cupfuls add one-third cupful sugar, one well beaten egg, two powdered soda crackers, one teaspoonful ground ginger, one teaspoonful of lemon extract, and one tablespoonful of butter. Mix well, turn into a greased pan and bake. This is delicious, try it.

A & M Cucumbers

Culture for hot-bed.—Make the frame 8½ feet wide and as long as is desired, using 12 in. boards. Select a place with good loamy soil on a sunny slope. Mix the soil almost half and half with horse manure. About February 1st sow liberally with seed, in hills three feet apart each way. Stretch wire over the frame across and lengthwise. Sew muslin in widths and lengths to cover frame. Arrange to roll the

muslin on a stick as a curtain. Cover each evening, and open each day.

Field culture.—Plant from March to October in hills 4 to 6 feet each way, 8 to 10 seeds to a hill. Cover an inch deep. When danger of insects is past, thin out the plants, leaving 5 or 6 of the strongest in each hill. It is ready for the table in six weeks from planting seed. One ounce of seed will plant 50 hills; two pounds to the acre.



Klondike Cucumber

Klondike This cucumber has steadily grown into favor since we first offered it six years ago. It is the one variety that made carload shipments possible because it is firm, dark green color, and stays green until consumed; turns neither white nor yellow with age, but stays green. It is a desirable size, just 7 to 8 inches long, symmetrical in shape, and especially crisp and palatable. It is an excellent variety for pickling when young, as well as desirable for the market. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) postpaid.

Davis Perfection This is the ideal cucumber. Long slender, dark green, tender and crisp. It is the best all around cucumber yet offered for the family garden, the market garden and the hot house. Do not hesitate to plant this variety, whether you plant a dozen hills or a larger acreage. (Pkt. 10c) (oz. 20c) (¼ lb. 65c) (lb. \$2.00) postpaid.

Arlington White Spine This has been a favorite for many years; it is one of the best sorts for early out-door forcing, and always a good table variety. It is very prolific, and excellent for pickling when young. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) postpaid.

Lemon Cucumber At last after years of advertising and effort to educate the home-gardener to grow the Lemon Cucumber in preference to the common long green type, we can now say that at least half the people are awake to the superiority of this delicious salad, and the other half will soon regret not having tried it earlier. Every one who has tried it is unanimous in its praise and would not think of omitting it from the spring garden. It is the color of a lemon when ready to use, and similar in shape, being less pointed at the ends.

Plant four or five hills for a family garden. Cultivate same as other cucumbers, water freely and you will have four times as many cucumbers as any other variety will produce.

There is nothing but praise for the Lemon Cucumber. It may now be found at almost any vegetable stand, and no home garden should be without it. (Pkt. 10c) (oz. 20c) (¼ lb. 85c) (lb. \$2.50) postpaid.

Read: We find the Lemon Cucumbers the finest for table use, the crop is very plentiful and the season long. (Signed:) Mrs. Chas. L. Gilmore, (Sacramento Co., Cal.)

Testimonial: "I wish to make a few remarks as to the Lemon Cucumber of which I have sent for a new stock of seed. I planted five vines along my garden fence and I would not venture to say how many we had, but we gave all the neighbors bucketsfull and put up and ate all we could and still there were cucumbers left, and for their flavor and productiveness I believe they are unsurpassed."

"J. C. Balschweil, Riverside Co., Cal."

"I will tell you about an experiment I tried three years and it proved good each time. When planting Cucumbers or Pumpkins, plant one or two nasturtium seed in each hill and let them grow and the bugs will not bother the plants."

"MRS. E. JONES, San Luis Obispo Co., Cal."

Improved Long Green Dark green, firm and crisp; ten to twelve inches long, a favorite with home and market gardeners. Hotel trade like a long cucumber for slicing; this is ideal for such purpose. It is very prolific, and none better for pickling. (Pkt. 10c) (oz. 20c) (¼ lb. 65c) (lb. \$2.00) postpaid.

Japanese Climbing Cucumber This variety should be grown more extensively; it is equal to others in quality and can be grown more economically in a small garden by planting near a fence or trellis of any kind, and climbs by tendrils as a grape vine. Whether space is a factor or not, we recommend it. (Pkt. 10c) (oz. 20c) (¼ lb. 65c) (lb. \$2.00) postpaid.

Our Everbearing Cucumber This variety is entirely distinct from all others on account of its close, bushy growth and ever-bearing character as shown in our illustration. The first cucumbers are ready very early and the vines continue to flower and produce fruit continually until late in the season, whether the ripe cucumbers are picked off or not, differing in this respect from all other varieties of cucumbers in cultivation. A single vine will show at the same time cucumbers in every stage of growth, the smaller ones being perfect in shape, of a fine green color, just the right size for pickling. As they grow larger they are entirely satisfactory as a slicing cucumber.

We recommend this to be planted in home gardens at all times, but especially in September. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) postpaid.

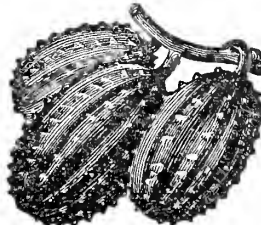
Chicago Pickling This is the variety that is being shipped out of Orange County to the Los Angeles pickling factories. Thirty-five carloads were shipped in, and possibly as many more came by auto truck. Our seed has given these growers satisfactory results for years.

This variety is chosen because of its delicious quality and its shape, being one inch thick and three inches long when at pickling size. It is enormously prolific, bearing in clusters. We can recommend it for the home garden, but not for the market gardener, because it turns yellow soon after being taken from the vine. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) postpaid.

A Word About Cucumbers

Planted from September 1st to 15th, in a sheltered place, will produce delicious cucumbers all through December and late into January. This has been done frequently, but so much depends upon the changeable climatic conditions each season that there is always a risk of failure, but it is worth a trial because the expense is small compared with the profit if you succeed. Six hundred dollars from one acre of cucumbers during the month of December is easily possible.

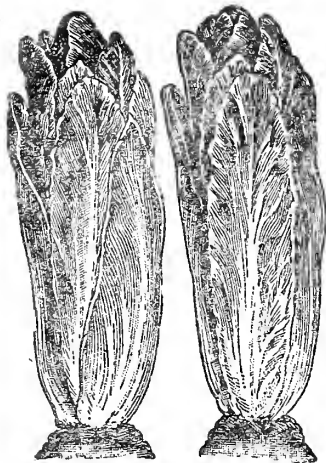
To prolong the vitality of your vines, pick all of market-size every other day, and do not tread upon the vines when picking. To grow prize cucumbers, mix a handful of fertilizer with the soil about the hill when planting, and more as the vine grows.



SMALL GHERKIN.

Gherkin This cucumber is the most delicious of all the cucumber family when properly pickled. It should be more extensively grown. Planted where it may climb on a trellis, one vine will cover a section of fence eight feet high and twelve feet wide, producing possibly a thousand or more of the delicious and oddly shaped gherkins. It should be planted to shade a window or back porch. (Pkt. 10c) (oz. 30c) (¼ lb. \$1.00) (1 lb. \$3.00) postpaid.

A & M CHICORY



WITLOOF CHICORY.

The roots, dug in the fall, dried, cut in thin slices, and ground, are used largely as a substitute for coffee. Seed should be sown quite thinly in shallow drills early in the spring. When well started, thin out to stand two or three inches apart in the row and give good cultivation all summer. (Pkt. 10c) (1 oz. 40c) (¼ lb. \$1.35) (lb. \$4.00) postpaid.

Witloof Chicory

Sow the seed in deeply prepared ground during June, July and August. Thin out to eight inches apart in rows twelve inches apart. In the fall take up the roots and store them in a manner that will preserve them in good shape for a month or longer this can be done by burying them in sand. In December make trenches ten inches deep and twelve

or fifteen inches wide, and loosen the soil for ten or twelve inches deeper. Set the roots three inches apart in rows six inches apart, within the trench, so the tops of the roots are eight inches below the top of the trench. Then fill with sand, water thoroughly and cover with manure. In two to four weeks tender heads will form and be ready to use as a salad with French dressing.

This is a most delicious salad, and many Eastern growers are making a specialty of it, selling to hotels at fancy prices. We suggest it to our many mushroom growers, believing it will go nicely hand-in-hand with the growing and marketing of mushrooms. (Pkt. 10c) (oz. 40c) (¼ lb. \$1.35) (lb. \$4.00) postpaid.

A & M COLLARDS

The Collard is an old-time favorite, adapted to all parts of the South, and as a producer of "greens" for boiling in winter and spring it has no equal. It will pay you to have a collard patch just to feed the chickens.

Southern Georgia This variety is the old-time favorite. Stands all sorts of adverse conditions without injury. Is very hardy. In many places where the soil is too poor to grow cabbage, the collard grows easily, and makes a good substitute for cabbage. (Pkt. 10c) (oz. 20c) (¼ lb. 60c) (lb. \$2.00) postpaid.

A & M CRESS

Pepper Grass Sow curled or pepper grass thickly, in shallow drills, every two or three weeks. It should be cut often, and will continue to grow. It is used not only for salad, but on the breakfast table and for garnishing. Used with lettuce its pungency adds an agreeable flavor. (Pkt. 10c) (oz. 15c) (¼ lb. 50c) (1 lb. \$1.50) postpaid.

True Water Cress Should be sown in damp soil or if a stream of water can be utilized, it would be much better. It will also thrive well in damp cold frames. Rightly managed, its culture is very profitable. (Pkt. 10c) (oz. 60c) (¼ lb. \$2.00) postpaid.

A & M CORN SALAD

Culture—Sow any time from Oct. 1st until February. Plant and cultivate the same as lettuce. It is hardy in this climate. It is used for garnishing in the same manner as parsley or cress. (Pkt. 10c) (oz. 30c) (¼ lb. \$1.00) postpaid.

Chervil Curled Chervil. Seed should be sown only during the cooler months in rows 15 to 18 inches apart and thin to 4 to 6 inches apart in the rows in good garden soil. Chervil is used for garnishing and flavoring. (Pkt. 10c) (oz. 40c) (¼ lb. \$1.35) postpaid.

COMPLIMENTARY

"I congratulate you on your new catalog which I have just received. To say that it is an improvement upon any previously issued, is high praise, but I can truthfully say it is." A. R. Sprague, Supervising Hort., Atascadero.

"Allow me to thank you for your fine catalog which recently came to me. There seems to be much more practical information in it than is found in most catalogs." Wm. E. Keith, Santa Clara County, Cal."

"Your interesting catalog for 1920 is at hand for which permit me to thank you. I have about three acres right here in the city that I am having a man to truck this season, and am giving him this catalog recommending several things for him to order of you, so kindly send me half a dozen more catalogs to hand around among my people that I know are interested in unusual products for planting." Jas. B., Knoblock, Miss."

A & M EGG PLANT

Market—The sale of Egg Plant does not compare favorably with other produce, and the consumption is not large. It is owing to the productiveness of the Egg Plant which makes it at all profitable during the season of abundance. A small acreage yields enormously, but it is the very early Egg Plant which makes a profit, such as \$1000.00 per acre. May and June are considered early.



New York Improved Spineless Egg Plant able fruit the following May. Egg Plants require four to six months to mature. One-fourth pound of seed is sufficient to plant an acre.

New York Improved This variety has superseded all others, both for market and home use. The large size and high quality of its fruit and its extreme productiveness make it the most profitable for the market gardener. It is spineless, which is a great advantage in shipping. (Pkt. 10c) (oz. 75c) (¼ lb. \$2.50) (lb. \$7.50) postpaid.

The Tree Egg Plant



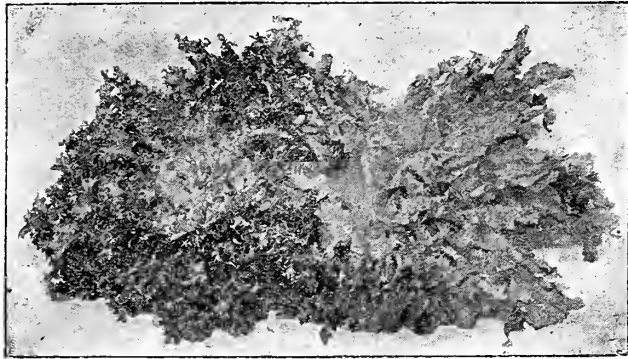
Tree Egg Plant

This variety is of medium size and extremely good shape, being particularly adapted to slicing, as there is no waste of material. It resists drought and bad weather to a wonderful degree, partly on account of its strong, upright growth. It bears its fruit sometimes one or two feet above the ground, thus escaping liability to rot. It is very satisfactory for the home garden. (Pkt. 10c) (oz. 75c) (¼ lb. \$2.50) (lb. \$7.50) postpaid.

Black Beauty

Is preferred by growers for the early market because it matures marketable sized fruit earlier than any other variety, and because the fruit is dark colored, when quite young, and uniformly over the entire surface. It is entirely free from spines. It is popular because it is a money-maker. (Pkt. 10c) (oz. 75c) (¼ lb. \$2.50) (lb. \$7.50) postpaid.

A & M ENDIVE



Golden Heart

Batavian

Culture—Same as for lettuce. Seed may be sown any time during the year. When plants are well started, thin out to ten inches apart or they may be transplanted. When plants have reached a good size, gather the leaves closely together and tie loosely in an upright bunch. This blanches the inner leaves in about ten days and adds to the crispness as a salad, as it renders the flavor mild and delicate. One ounce will sow 400 feet of row.

This plant furnishes an attractive and appetizing salad for the fall and winter months, or by repeated sowings a supply may be had nearly all the year 'round.

Green Curled Golden Heart Leaves are finely cut or lacinated, giving the plants a rich, mossy appearance, which is greatly enhanced when the centers are nicely blanched.

This is the variety generally preferred because it blanches to a beautiful golden yellow. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) postpaid.

White Curled This beautiful variety does not need blanching to prepare it for use, the mid-ribs being naturally of a pale golden yellow, the finely cut and curled leaves are almost white. (Pkt. 10c) (oz. 20c) (¼ lb. 65c) (lb. \$2.00) postpaid.

Batavian or Escarol Forms large heads of broad, thick leaves, which can be blanched for a salad or it will make excellent cooked greens, as well as being useful to flavor soups, stews, etc. (Pkt. 10c) (oz. 20c) (¼ lb. 45c) (lb. \$1.25) postpaid.

A & M HERBS

Herbs in general, delight in a rich, mellow soil. Sow the seed any time throughout the year, in shallow drills one foot apart; cover lightly with fine soil, and when up a few inches, thin out to proper distances apart, or transplant into prepared beds. Care should be taken to harvest properly; do this on a dry day, just before they come into full blossom. Dry quickly in the shade, pack closely in bottles or dry boxes to exclude the air; this will insure their being preserved in good condition for future use. Varieties in the list marked * are perennials.

Plant Dill Every year there is such a demand for green dill that the supply is short of the demand. Plant in any quantity, from ten feet square to one acre, but not more. Make several plantings to have it drag along, and sell what you can of the green dill and let the balance mature for seed. There is a good demand for the seed at about 20c per lb.

Leading Varieties

Pkt.	Pkt.
Anise .....10c	*Peppermint .....10c
Balm .....10c	*Rosemary .....10c
Borage .....10c	*Sage .....10c
Burnet .....10c	Saffron .....10c
*Caraway, lb. 50c .....10c	Sorrel .....10c
*Catnip or Catmint .....10c	Summer Savory .....10c
Chervil .....10c	Sweet Marjoram .....10c
Coriander, lb. 50c .....10c	Sweet Basil .....10c
Dill .....10c	*Thyme .....10c
*Fennell, Sweet .....10c	*Winter Savory .....10c
*Lavender, Sweet .....10c	*Wormwood .....10c

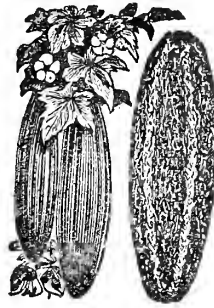
Devote a small plot in your garden to the growing of herbs. They add to the taste of things what daintiness adds to the looks of things, and many of them may be enjoyed all the year 'round.

There is an increasing demand for Basil, Dill and Thyme for use in canning and pickling. It may prove profitable to contract to grow these herbs for that purpose.

DANDELION

CAUTION—We have discontinued the sale of the Dandelion as an herb because it is an obnoxious weed and should be destroyed wherever it appears. If it is neglected it will soon spread over your lawn crowding out all the grass.

GOURD



Culture—Gourds are tender annuals, of trailing or climbing habit. The seed should not be planted until the ground is warm. Plant in hills and cultivate as cucumbers. Leave only two plants in a hill, and allow the vines to ramble or train over a trellis for shading windows.

Dish Rag Gourd The peculiar fibre within the gourd gives it its name. The fruit grows about one foot long. The interior fibre is serviceable for a variety of household purposes, being used as a dish cloth, or sponge. The fibre is tough, elastic and durable. (Pkt. 10c).

Mock Orange A good old sort, the gourd often finding its way into the family sewing basket. A beautiful and rapid climber, quickly covering trellises. (Pkt. 10c).

Hercules Club This often grows to a length of four feet. This is not the same as the New Guinea Butter Bean which it resembles. (Packet 10c).

Dipper—Bowl with long handle. (Pkt. 10c).

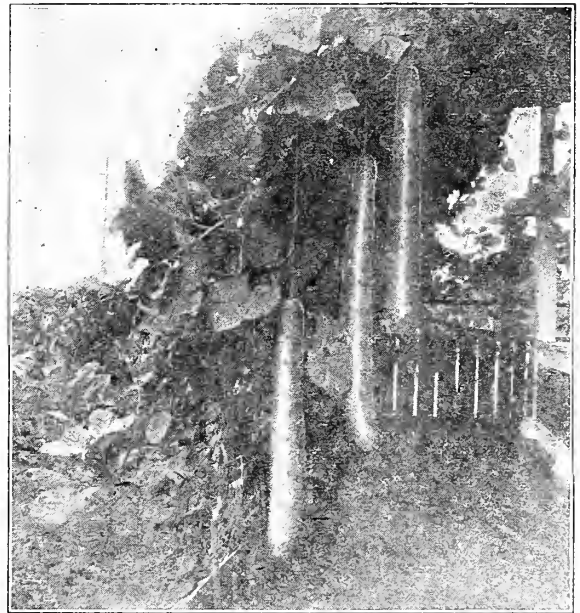
Bottle—Bowl with short handle. (Pkt. 10c).

Pipe—Often made into pipe for smoking tobacco. (Pkt. 10c).

Nest Egg—(Pkt. 10c).

Ornamental—Small odd shapes and colors. (Pkt. 10c).

Mixed Gourds—(Pkt. 10c).



New Guinea Butter Bean as an Arbor

AN EDIBLE GOURD

Lately advertised as New Guinea Bean. Has been a common table vegetable in China from time immemorial.

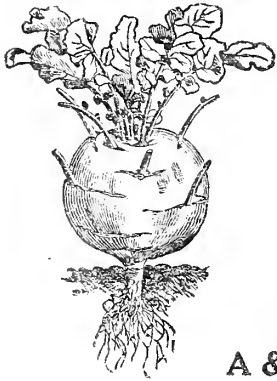
It remained for some cheerful idiot to advertise "A Giant New Guinea Butter Bean." "One bean suffices for several meals." "Sliced like bread, one piece is a portion for each member of the family," and such talk.

All of us have curiosities and many persons have reported to us how "Good is this New Guinea Bean." We tried it and sure enough we found it even better than the most delicious marrow.

Receipt: Take fresh from the vine a young gourd about sixteen inches long and three inches in diameter or smaller, while the fuzzy growth is yet on. Cut into cubes about ¾ inch, bring to a boil, pour off the water once or twice. Season well with pepper and salt, add butter. You will be surprised how good it is.

"Enclosed is picture of Bean I promised to send you. The lower bean grew to be 48 inches in length and measured sixteen inches around. August 10th it was ten inches long; we continued to measure it each day and its fastest growth in 24 hours was three inches. It never grew less than one inch each day. We found when the bean is ten or twelve inches long the best time to bake or boil it and to my way of thinking is the best tasting vegetable of the squash family. The trellis you see is over my back porch and affords grand shade.—Mrs. Charles Glover."

A & M Kohl Rabbi



Culture—Seed may be sown every month in the year. Drill on ridges same as beets. (See page 7). Thin to three inches apart. An ounce of seed will produce 2000 plants.

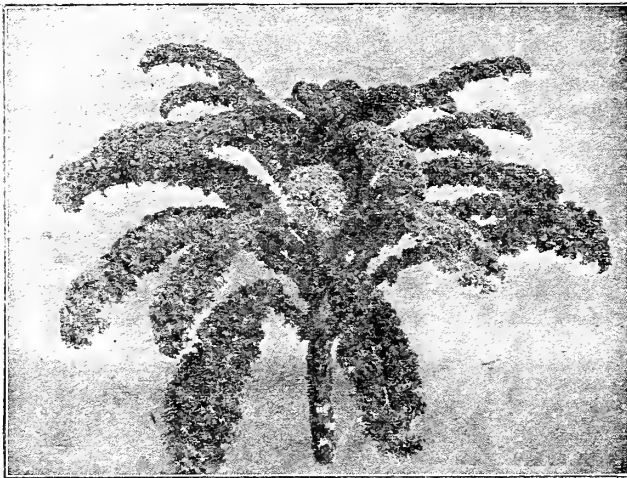
Early White Vienna

The earliest sort, very tender, excellent for table use. (Pkt. 10c) (oz. 30c) (¼ lb. \$1.00) (lb. \$3.00) postpaid.

Early Purple Vienna

Similar to above, but has flesh of purple color. (Pkt. 10c) (oz. 30c) (¼ lb. \$1.00) (lb. \$3.00) postpaid.

A & M KALE



Tall Scotch Kale

Culture—Seed should be sown thinly in drills, about the middle of June for the tall sorts; transplant the young plants twelve inches apart in rows three feet apart. Later in the season the dwarf sorts may be sown rather thickly in drills to furnish small heads to be cooked like spinach. One ounce to 100 feet of drill.

Tall Scotch This makes a beautiful plant, about two-and-a-half feet tall. (Pkt. 10c) (oz. 25c) (¼ lb. 65c) (lb. \$2.00) postpaid.

Jersey Kale A tall variety with smooth leaves. Especially used for poultry greens. (Pkt. 10c) (oz. 20c) (¼ lb. 45c) (lb. \$1.25) postpaid.



The Arrow Indicates the Location of Our Market Branch
Los Angeles Terminal Market—The Largest Market
Place in the World

Here is a complete working community. A produce exchange, Bank, Hotel, Restaurant, Market Stalls for the retailer, and shipping facilities for wholesale.

This is an afternoon picture, an early morning picture would show a thousand trucks lined in four rows from one end to the other.



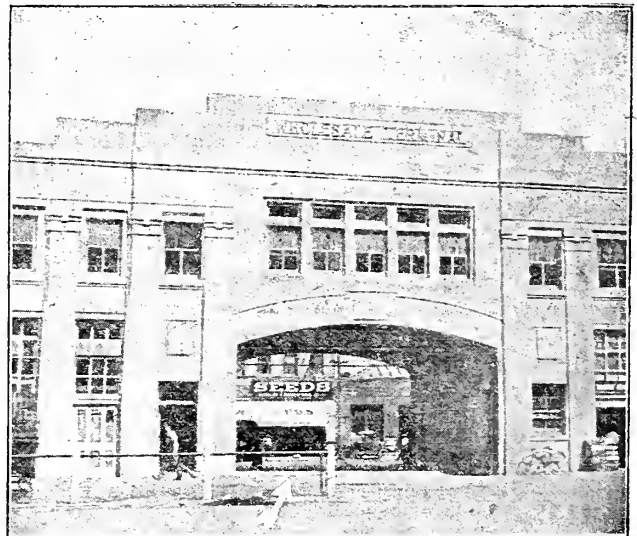
Siberian Kale

Siberian Kale We believe this to be superior to other varieties because it grows more greens for poultry, and is of better flavor for the table. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) postpaid.

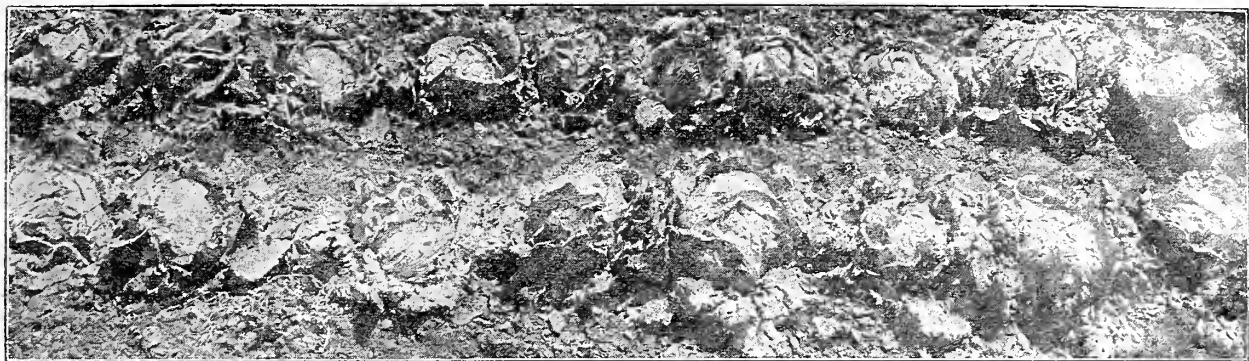
FARM and HOME DRYING of FRUITS and VEGETABLES
The bureau of plant industry, United States department of agriculture, has issued Farmers' Bulletin 984, "Farm and Home Drying of Fruits and vegetables," by Joseph S. Caldwell.

The bulletin may be had without cost by writing Division of Publications, United States Department of Agriculture, Washington, D. C.

Plans from which to make a vegetable drier will be found in Extension Circular 23 of the University of Missouri College of Agriculture, Columbia, Mo. This circular also contains directions for drying fruits and vegetables, and for storing and using the dried products. Send for this circular.



Through the Market Gate Into Our Store
Our Market Branch Store is at 767 South Central Avenue, opposite the Terminal Market. It is requiring six experienced men under the capable management of Louis Worthington.



Los Angeles Market or New York Special
Worth \$6,000,000 Annually

How to Raise Lettuce In Bulletin No. 160 entitled "Lettuce Growing in California," by Prof. Stanley S. Rogers, published by the University of California in 1917, the author predicted great development of the lettuce industry in California because of the growing demand for California grown lettuce. His prophecy has been fulfilled beyond his wildest imagination. At that time approximately 2000 acres were planted to lettuce for shipping. Within the same time the demand for our strain of seed has increased ten-fold. Credit must be given our dependable seed for building up this enormous shipping business. In normal times the grower usually received 40 cents per crate for first class lettuce, now rarely less than \$1.00 and often \$3.00. One crate contains from four to six dozen heads.

There are 30,000 plants per acre. It is reasonable to expect 24,000 marketable heads or 2000 dozen, about 400 crates at \$1.00 per crate, or \$400 per acre. With a market for all of it at a price to the eastern consumer of 20 to 25 cents a head it is not surprising that the lettuce industry has grown to enormous proportions.

CULTURE

Lettuce is very exacting as to soil requirements. It is best suited to a rich, light loam, and should never be planted on soils of poor quality. Irrigation is necessary throughout the entire growing period, except during the rainy season, but the crop is easily ruined by an excess of water. The crop stands cold better than heat, and in many of the interior valleys of the state it is impossible to raise lettuce of good quality during the summer.

At the time of planting, the soil should be in the finest possible condition. Many growers apply from 15 to 25 tons of manure per acre. The plants should be grown on ridges, 12 to 18 inches wide, four to six inches high, and ten to 15 inches apart. The water should be run between the ridges and not flow over the tops, and should never be allowed to cover the plants. There should always be an adequate amount of moisture in the soil from the time the plants have commenced to head until they have matured. The hoeings necessary on raised beds will vary from one to three times. The earth around the plants should not be allowed to harden.

In the interior valleys and especially in Central California, plants set in the field during September should mature during December. In warm weather the lettuce should be cut early in the morning and never when the heads are wet, as in that condition they will heat and quickly rot. The field is gone over from two to five times during the cutting season.

At the university farm vegetable garden, 80 different varieties of lettuce were grown during the past season, and most of them did well. However, now most in favor in California is the Los Angeles Market, which is best adapted for long distance shipments and which withstands cold weather injury but is not adapted to maturing during hot weather.

The chief difficulties the lettuce grower meet are lack of a satisfactory stand, due to unfavorable weather, or to over-irrigation or under-irrigation; or diseases, such as "stem rot," a fungus disease controllable by good drainage, and "sunburn," a blackening of the edges of the leaves inside the heads, caused by a period of excessive hot weather from the time the plants are half grown until they have commenced to head, and preventable by planting in the fall or early spring and by frequent irrigation during the spring if the weather is very hot and dry. Give preference to sandy soil in winter and heavy soil in summer.

Why Is Imperial Lettuce Larger?

Probably because they allow it to mature to good size. Los Angeles growers are too impatient to fill orders, and this impatience is costing them one-fourth of their crop. This temptation to sell before the crops mature too often robs the grower of his profit. Remember almost all crops nearly double their tonnage the last two weeks of growth.

NOTICE! NOTICE! NOTICE

Do not fail to read all foot-notes at the bottom of the page; they are there to fill up space, but they are also full of information, valuable to you. Keep this catalog, you will need it all the year.

Los Angeles Market or New York Special

One of Aggeler & Musser Seed Co.'s Big Money-Makers. This is one of the many vegetables introduced by us which have become of great value to the growers of Southern California. Like the Pearl Cauliflower, Winnigstadt Cabbage, White Rose Potato, and Golden Self Blanching Celery, thousands of carloads of this lettuce are being shipped from Southern California. We shipped the first crate to a friend near Philadelphia, Pa. It arrived in perfect condition and kept good on ice for a period of three weeks, until consumed. We then introduced this as the Los Angeles Market Lettuce. It at once created a sensation with the growers, and later with the shippers, when they learned it would carry to the far east as well as cabbage. It is now shipped more extensively than any other vegetable. (Pkt. 10c) (oz. 50c) (¼ lb. \$1.50) (lb. \$5.00) postpaid.

Mr. K. Samuels, of Lompoc, writes:

"We are supplying some of the stores here, and the heads are weighing from one to two and one-half pounds to the head, and the quality is the very finest."

Iceberg This is next to Los Angeles Market as the leading variety for the Southwest during the summer months. Of course it is better during the winter months, but not so solid as the Los Angeles Market, which is strictly a winter variety, while the Iceberg is a good all-season lettuce, and hundreds of carloads of Iceberg are being shipped when the other is not available. Iceberg lettuce planted later than March 1st should be grown on dark, heavy soil, because if grown on light, sandy soil the heat of the sun reflected from the sand on the under side of the leaves causes them to burn almost to the heart.

The light green, curled, red-tinged leaves of the Iceberg form heads as large as the Los Angeles Market, but not so solid, but it is as tender and crisp, and is of excellent flavor. (Pkt. 10c) (oz. 25c) (¼ lb. 85c) (lb. \$2.50) postpaid.

We had Iceberg Lettuce from your seed last winter that weighed 2½ lbs. per head, equal to good sized cabbage, and this with no fertilizer and very little irrigation or cultivation. A. L. BRACHT, Texas.

The Lettuce planting of 1920 was the largest in acreage, but like the market for cabbage there was no market and thousands of acres wasted in the field. But there has been no falling off in the demand for our strain of seed. We sold more than ever before, for the reason that our seed has proven dependable.

Deacon A large smooth-leaf variety. A long time favorite in the east. It is an excellent variety because of its crispness and good flavor. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) postpaid.

"Your general catalog came today and it is the best retail catalog I ever saw, and I have seen some too."

W. M. Stuart, Marshall, Mich."



How to Grow Lettuce

LETTUCE—Continued

Big Boston Very large, smooth-leaved, solid-heading variety grown more extensively throughout the east and south than any other. It is congenial to all climates, and is a good shipper. In flavor it probably excels all other smooth-leaved varieties. An excellent all year 'round lettuce. (Pkt. 10c) (oz. 20c) (¼ lb. 65c) (lb. \$2.00) postpaid.

Hanson Without exception this is the best variety for late spring and mid-summer crop. Prof. F. W. Mally, Farm Demonstrator of Webb County, Texas, discovered Hanson Lettuce to be resistant to both heat and disease and particularly resistant to eel worm which is often prevalent where least expected. Hanson Lettuce is similar to the Iceberg Lettuce, except that it has not the tinge of red. We recommend it for the home garden. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) postpaid.

Paris White Cos

This might well be spoken of as the "Aristocrat" for the reason it is used almost exclusively at aristocratic clubs and hotels for salads, because it is crisp and has a delicious nutty flavor. Gardeners would profit to give more attention to this variety. (Pkt. 10c) (oz. 20c) (¼ lb. 60c) (lb. \$1.75) postpaid.



Paris White Cos

May King Very similar to Big Boston, without the tinge of red. It is a good shipper and of excellent flavor. (Pkt. 10c) (oz. 20c) (¼ lb. 60c) (lb. \$1.75) postpaid.

Way-a-head A large, solid-headed, smooth-leaved type. All green, none of the red tinge that is so much objected to on the part of the shipper and the retailer because the red tinge suggests staleness which the buyer would avoid. When you plant the Way-a-head you will have the best smooth-leaved variety on the market. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50).

Marblehead A lettuce of great favor in the East because of its delightful flavor, and because it there grows to perfection from early spring until late fall. For the Southwest it is our best summer lettuce but like all other varieties with us, it attains its perfection during our winter months. Plant all the year 'round. (Pkt. 10c) (oz. 20c) (¼ lb. 55c) (lb. \$2.50) postpaid.

Early Curled Simpson This is a very popular variety as a loose leaf lettuce. The leaves are large, thin, very tender and of very good quality. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) postpaid.

California Cream Butter This lettuce is similar to the Big Boston. Is a good shipping variety. One gardener sold from one-half acre of this lettuce nearly three hundred dollars' worth. It is of good flavor and beautiful in appearance. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) postpaid.

Tennis Ball Similar to the California Cream Butter, except in size and without the tinge of red. It forms a solid head and is best for early spring. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) postpaid.

A & M Mushroom

One of the most profitable crops for the outlay that can be grown. The market is sure, because the supply never equals the demand. Mushrooms can be grown in any dark room or cellar where the temperature can be kept at 50 to 75 degrees. The main conditions in mushroom growing are proper and uniform temperature and very rich soil. One pound of spawn is sufficient for a bed 2x8 feet. We have the very best spawn obtainable. If interested, write for circular.

Pure Culture Spawn—Brandywine—Put up in bricks. (Per brick 40c) (5 bricks \$1.75) prepaid.

Address University of California, College of Agriculture, Berkeley, Cal. Ask for Circular No. 84, entitled, Mushrooms and Toadstools.

Many inquiries come to us from would-be growers of mushrooms. Our reply is not always encouraging because many growers have marvelous success for a time but we know of not one permanently prosperous grower. There seems to be an element of uncertainty. The green-horn often succeeds where the professional grower fails.

If you have a favorable spot on your place, try it.

A & M LEEK

A & M Leek We believe in having the best of everything. With this idea always before us, we have secured this fancy strain of leek. It is large, white, tender and mild—the best in the world. Its mild, delicate flavor makes a delightful addition to lettuce salad. (Pkt. 10c) (oz. 35c) (¼ lb. \$1.15) (lb. \$3.50) postpaid.

Yellow Seeded Mustard

Used extensively for spicing, pickling and other culinary and medicinal purposes. The young plants make delicious greens. (Pkt. 10c) (oz. 20c) (lb. 50c) postpaid.

Common wild

The seed is very pungent, and on that account is used largely in the drug trade. The young foliage makes excellent greens. (Pkt. 10c) (oz. 30c) (lb. 75c) postpaid.

Southern Giant

The true curled-leaf variety so popular in the South for planting in the fall. (Pkt. 10c) (oz. 20c) (¼ lb. 40c) (lb. \$1.25) postpaid.

Ostrich Plume

Is delicious as well as ornamental; the leaves resemble ostrich plumes, hence the name. (Pkt. 10c) (oz. 20c) (lb. \$1.50) postpaid.

Chinese White Mustard



Chinese Green Mustard

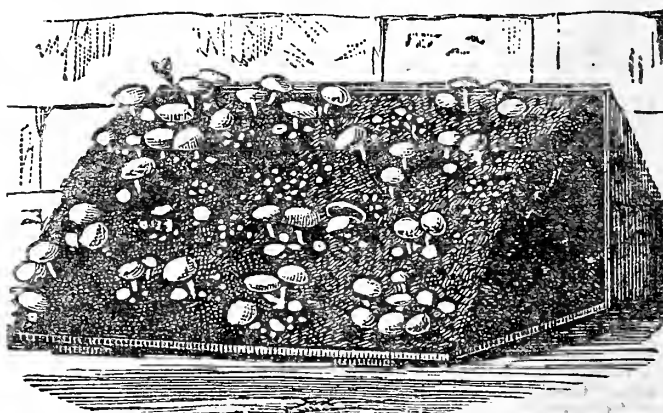
Chinese White

This is a delicious vegetable and flavors strongly of Brussels Sprouts, being less pungent than the American varieties. It is greatly relished by the Orientals, and can be seen all the year 'round at vegetable stands kept by the Japanese and Chinese. (Pkt. 10c) (oz. 30c) (¼ lb. \$1.00) (lb. \$3.00) postpaid.

Chinese Green

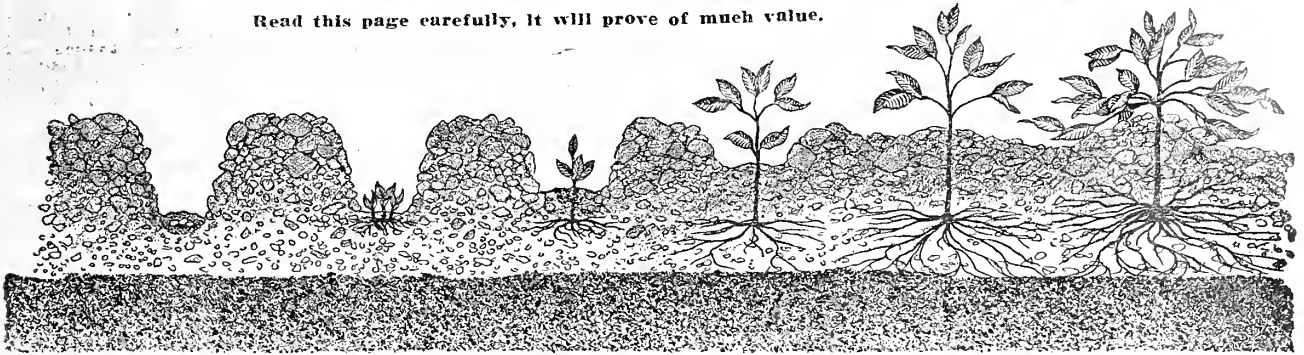
This is an Oriental vegetable, and like the White Mustard, is grown all the year 'round, but like our American Spinach, thrives best in the winter season. (Pkt. 10c) (oz. 40c) (¼ lb. \$1.35) (lb. \$4.00) postpaid.

"Your catalog is great; the most instructive of any that I have ever looked at."
J. F. Morrison, San Joaquin County, Cal."



Deep Planting to Insure a Healthy Growth

Read this page carefully, it will prove of much value.



Planting

Second Week

Third Week

Fifth Week

Seventh Week Last Cultivation

READ CAREFULLY (STUDY PICTURE)

Pulverize the soil thoroughly 10 inches or deeper. Make your furrows deep; plant the seed in the bottom of the furrow, and cover one inch deep for the vine seeds and two inches for potatoes. In one week the sprout should be above the ground and the plant well rooted. In two or three weeks the vines will be beyond danger from the beetle and should be thinned leaving two plants, and the earth drawn toward the plant until it is about level. In four or five weeks, with plow or cultivator, throw the earth around the plant until the soil is hilled up about the plant and the root system is ten or twelve inches below the surface, but bear in mind that the little feeders come to the surface, and after five or six weeks, cultivation should not be more than two inches deep.

If this method is followed, there will be little danger from blight and the vines will be healthy enough to resist other diseases.

Remember—Apply this method also when transplanting Tomatoes, Cabbage, Cauliflower and almost anything but Sweet Potatoes.

Important Information on Culture

A good rule for planting and irrigating melons, squash, pumpkins, cucumbers and tomato plants.

The soil must be thoroughly soaked two or three feet deep, either by rain or irrigation. When dry enough plow ten or twelve inches deep. Thoroughly pulverize the soil. Make furrows eight or ten inches deep.

Plant the seed in the furrow at regular distances apart, four feet for cucumbers and bush squash, six feet for muskmelons, eight feet for casabas, and nine feet for watermelons, pumpkins and vining squash.

As the plant grows gather the soil around it until the roots are twelve inches or more below the surface. Thin out all surplus plants as soon as they are hardy and well established. The rows are now straight and an equal distance apart. This makes it easy to cultivate close to the hills, both lengthwise and crosswise. Cultivate deeply as long as there is no danger of disturbing the roots. Be always mindful that the roots are as long as the vine, therefore, when working close to the hills and among the vines, let the hoeing or cultivating be shallow.

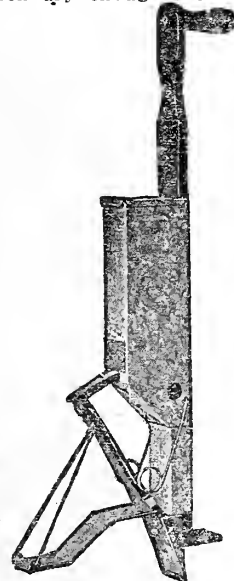
Always cultivate the irrigation furrow as soon as it is dry enough to mulch nicely.

Heavy soil or loam requires less frequent irrigation than sandy soil. The term irrigation means soaking the soil thoroughly, not lightly.

If this rule is intelligently adhered to your vines will never suffer from drouth, or root blight, and will be healthier in every way, because the roots are deep down in the cool, moist earth unaffected by the heat of the sun. This is the secret of success with all midsummer planting.

This method also applies to the transplanting of tomatoes.

Each year this entire page is given to guide the planter to success, from the preparation of the soil to the marketing of the crop. Melons are a short season crop and need constant and active attention until the last melon is marketed. Therefore some suggestions to the inexperienced grower may guard against failures, discouragements and bankruptcy. On the other hand this page may help a grower to success.



All large melon growers are now using the Segment Corn Planter — it does the work better. Price \$2.00 f. o. b. here. Wt. 5 lbs.

For Early Cucumbers, Melons and Squash

Protect Your Plants Against Frost and Insects

Wax Paper Plant Cover

THE ONLY SURE PROTECTION



The Wax Paper Plant Cover is the only sure protection against late frost and insects during the early growth of your vines and at insignificant expense as compared with the cost of insecticides, the continual labor of combatting insects and other pests, and the cost of replanting, besides having a large percentage of vacant hills.

THE WAX PAPER PLANT COVER prevents all this at a cost of less than 1 cent per hill.

We have two grades of paper, either grade is good enough to endure the season. Samples will be furnished upon request.

Parchmyn—the lighter grade
Size Wt. per M

		1000 to 4000	5000 to 9000	10000 or more
12x12	9 lbs.	\$ 4.25 per M	\$ 4.15 per M	\$ 4.00 per M
14x15	13 lbs.	6.00	5.90	5.75
18x24	25 lbs.	12.50	12.25	12.00
24x36	50 lbs.	25.00	24.50	24.00
Wa—the heavier grade				
14x15	15 lbs.	\$ 6.50	\$ 6.40	\$ 6.25
18x24	30 lbs.	13.00	12.75	12.50
24x36	60 lbs.	26.00	25.50	25.00

FOR ALL KINDS OF MELONS

FOR APHIS—First keep the vines hardy by deep planting and proper cultivation, irrigation and fertilizing. Then if the aphid appears, which is unlikely, spray with Black Leaf 40, or bury the affected part with dust. Either way is a constant fight. Lady bugs in some instances are destroying the aphid very satisfactorily.

FOR MELON BLIGHT that is caused by a fungus at the root, spray the hill freely with Bordeaux so that the liquid will follow the stem several inches beneath the surface. This should be done as a precaution rather than as a remedy.

One grower reported to us that the melon wilt was destroying his vines. We advised him to apply a cup of Bordeaux to the stem of the plant at the surface of the ground and soak it in until it was thoroughly applied. This is to destroy any fungus that may exist there. He did so and reported that it saved his field and some of the vines seem to have grown six inches during the first night. Try it.

READ THIS. If you would prolong the life of your vines, make a path between the rows by training the vines to grow along the rows and not across from one row to the other. Then at picking time do not allow the pickers to tread upon the vines. To do so makes many culls and shortens the life of the vines and lessens your profit about one-third.

A & M Casabas

The casaba can be grown successfully throughout the Southwest.

The casaba is now at full zenith of popularity. Previously it was grown as a late melon to mature after the cantaloupe season. As a late melon its popularity was confined to a limited section near the Coast of Southern California. But it is now demonstrated that it can be grown in all semi-arid sections side by side with the early cantaloupes and watermelons. The carloads of large perfect casabas of the Golden Beauty variety that were shipped from the San Joaquin Valley during the past two seasons, have proven the value of the casaba as an early melon and good shipper equal to the maternelon and cantaloupe. Casabas are shipped to Los Angeles and San Francisco without crating, as are watermelons. They are crated and packed in straw for Eastern shipment.

Our prophecy made years ago is now fully realized. We then stated that casabas would be shipped to Eastern markets in carloads, becoming one of California's many commercial products of great value. Stanislaus and Los Angeles counties are most conspicuous as shipping centers. More than one thousand carloads were shipped from these points in normal times.

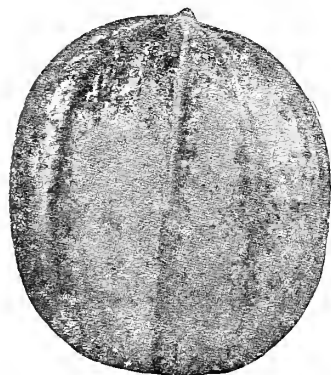
The introduction of the Hybrid Casaba is a conspicuous example of our persistency in bringing before our growers what we have decided to be a good and meritorious introduction. We knew its merits and were determined that others should know. After fifteen years of continued advertising, the Hybrid Casaba is now acknowledged the most delicious of all melons.

If anyone doubts this assertion, get some nice large Hybrids no matter which strain, keep them in a warm place until just soft enough to make an impression with the thumb, like in a mellow apple. Put in the ice box for twenty-four hours, then when thirsty and hungry, eat it. You will be convinced it is prince of all melons.

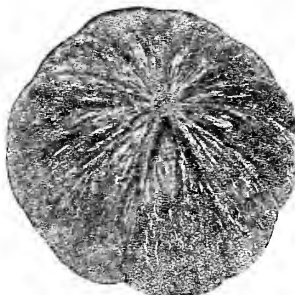
Cultivate the same as muskmelons. Plant according to your locality, from February 15th until July 15th; for late shipping June 1st to July 15th seems to be the best time for planting it.

Casabas may be taken from the vine as soon as they lose the green luster, but should not be eaten until the hard rind of the Pineapple and Golden Beauty will give slightly under pressure, but the Hybrid is not at its best until the thumb can make an impression as in a mellow apple.

The best way to keep the casaba late into the fall is to gather them together on the hill and cover them completely with the vines, but do not pick them off the vine.



A & M Hybrid
See Front cover



Improved Hybrid
The Prince of All Casabas
Introduced by us in 1902

A & M Hybrid

This is a cross between the Winter Pineapple and the Montreal Muskmelon. It grows to a very large size and is of delicious flavor. It is a rampant grower and yields enormously; as many as seventeen large melons were taken from one vine. It is profitable early and late. Plant from March 1st until July 15th. (Pkt. 10c) (oz. 20) (¼ lb. 65c) (½ lb. \$1.10) (lb. \$2.00) postpaid.

Improved Hybrid

The melon that made Los Angeles famous. This melon is now grown as extensively for a midsummer crop as the muskmelon, and finds a ready sale. It originated locally, and is as distinctly a Los Angeles product as is the Los Angeles Market Lettuce. Both have made Los Angeles famous. The local and traveling public are now fully awake to the delicious flavor of this casaba. For the home garden or for the market plant the Prince of All Casabas. (Pkt. 10c) (oz. 25c) (¼ lb. 80c) (½ lb. \$1.40) (lb. \$2.50) postpaid.

Santa Claus

The name is appropriate to the melon. It is a delightful present to send to your Eastern friends at Christmas. It is of delicious flavor, beautiful in its mottled gold and black coloring, and readily keeps until January. We advise that it be grown more extensively for the local trade. The supply has not been equal to the demand for several years. (Pkt. 10c) (oz. 25c) (¼ lb. 80c) (lb. \$2.50) prepaid.



Santa Claus

The supply has not been equal to the demand for several years. (Pkt. 10c) (oz. 25c) (¼ lb. 80c) (lb. \$2.50) prepaid.

Winter Pineapple This is the first of casabas introduced into America. We have carefully maintained the purity of type so that it is now just as distinct as when introduced more than forty years ago. This and the Golden Beauty are identical in all except color, which when mature is light green. The Winter Pineapple

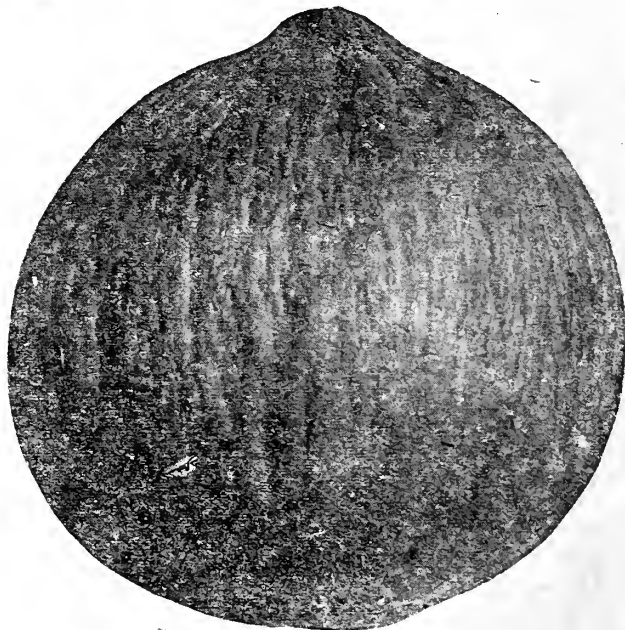
is more profitable as a late melon, therefore we recommend to growers near the Coast that it be planted during June. Our type of Winter Pineapple is round, selected for its good shipping qualities. (Pkt. 10c) (oz. 25c) (¼ lb. 80c) (lb. \$2.50) postpaid.

Golden Hybrid Last year we urgently advised the planting of Golden Hybrid, saying the golden color is much in its favor; also that the grower having the Golden Casabas would have preference from the buyer. A few growers took our advice and reported that we were right. Mr. Barnhart of Lankershim had twenty acres of Golden Hybrid, also some of the Improved Hybrid. Mr. Barnhart says, "His Goldenes always sold first and as for quality they are just as good as the green and have less tendency to crack open. The rind is just a little bit harder than the green." See front cover.

Now growers, all we can add is that it is your loss if you will not plant the Golden Hybrid.

The grower who will supply the market with the Golden Hybrid will be the first to sell and command the highest price.

(Pkt. 10c) (oz. 35c) (¼ lb. \$1.00) (lb. \$3.00).



Golden Beauty

See Front Cover—Worth \$500,000 Annually

Our seed will grow 100% like this picture

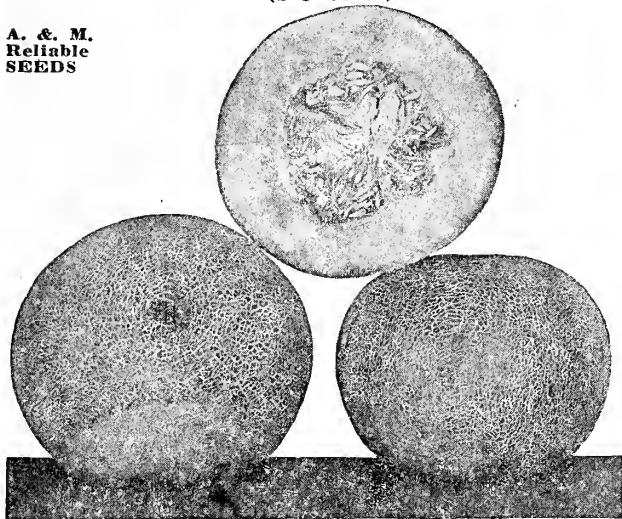
Golden Beauty Introduced by us in 1906, it at once became popular locally. It is now grown more extensively throughout California than any other casaba because of its beautiful appearance, excellent shipping qualities and delicious flavor. It is the casaba that added much to the fame of California, as well as adding a million dollars each year to the wealth of the state. (Pkt. 10c) (oz. 25c) (¼ lb. 80c) (lb. \$2.50) postpaid.

A & M Muskmelons

True Armenian or Persian Melon

(See Cover)

A. & M.
Reliable
SEEDS

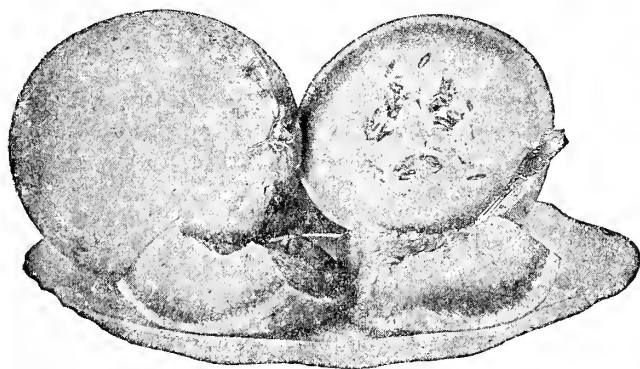


Armenian or Persian

100% true to type.

Culture the same as for muskmelons. For five years we have labored to get this melon pure. Heretofore the greatest drawback to the grower was the large percentage of off-type and culls. But at last we are able to announce that our seed field was 100% pure; therefore, do not hesitate to plant this melon. It is in a class by itself. Large, extremely netted, without ridges, thick yellow flesh of delightful flavor. A good keeper and a good shipper. It should be picked while yet quite solid. Customers should be educated to purchase half a dozen at a time and set them away to be eaten as they become mellow like a casaba. When properly picked they are ready for the table in six to ten days. (Pkt. 10c) (oz. 60c) (¼ lb. \$2.00) (1 lb. \$6.00) postpaid.

Mr. A. Brandenburger of Lankershim sold more than \$600.00 worth of Armenian melons from one and one-fourth acre. For the home garden this melon cannot be surpassed. For the market it is a money-maker.



Honey Dew

The melon with an appropriate name
Honey Dew

Honey Dew The melon with an appropriate name. The Honey Dew again made good last season. It exceeded other melons in popularity on the local market and was profitable to the grower. It yields enormously, and every melon is a good one.

It is ready to pull when the color shows the slightest tendency toward yellow, and ready to eat in a few days when it is slightly soft.

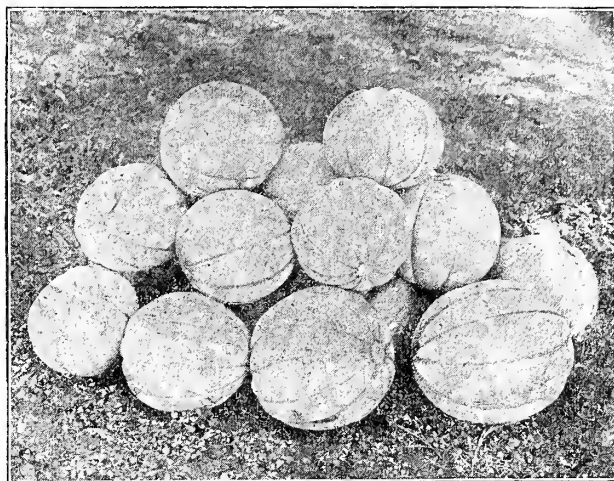
The picture is typical of its shape; the average size is about as large as a coconut, but the smaller sized melons are not inferior in flavor. Every melon is a good one. Flesh is light green and sweet as honey. The rind is light green or silvery-gray in color, smooth as an egg and hard as the rind of a winter squash. It is therefore a good shipper.

A News Item:—"Horticultural Commissioner Waite is authority for the statement that a Japanese in the Brawley district raised 700 crates per acre of Honey Dew melons. The early crates brought \$6 per crate. The larger part of the crop brought \$3 per acre."

(Pkt. 10c) (oz. 30c) (¼ lb. \$1.00) (1 lb. \$3.00) postpaid.

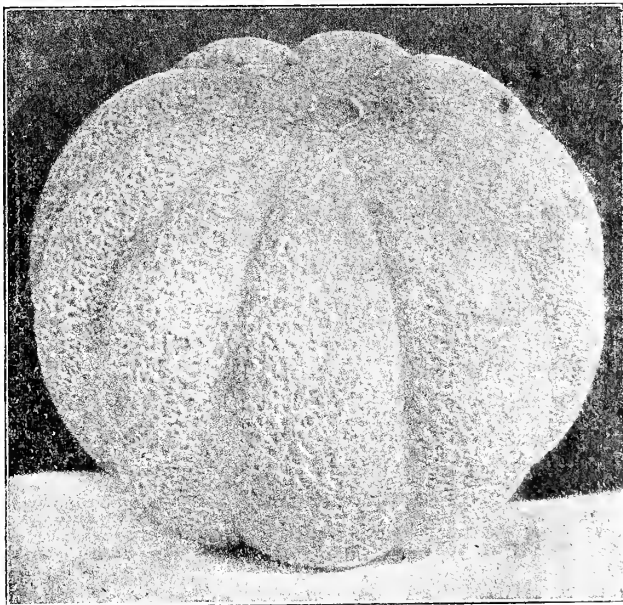
YELLOW FLESH VARIETIES

See Front Cover



Our Tip-top, 100 % Pure

A & M Tip-top This melon is very popular almost to the exclusion of any other variety. This is a fine, round melon of such attractive appearance as to always sell quickly in the markets. It is sweet, juicy and delicious. The flesh is firm, but not hard, and is edible almost to the rind. The melon is of medium to large size and is one of the best yellow fleshed varieties. Our grower says our seed grows melons of uniform type exactly like the picture. (Pkt. 10c) (oz. 20c) (¼ lb. 85c) (1 lb. \$2.50) postpaid.



Irondequoit

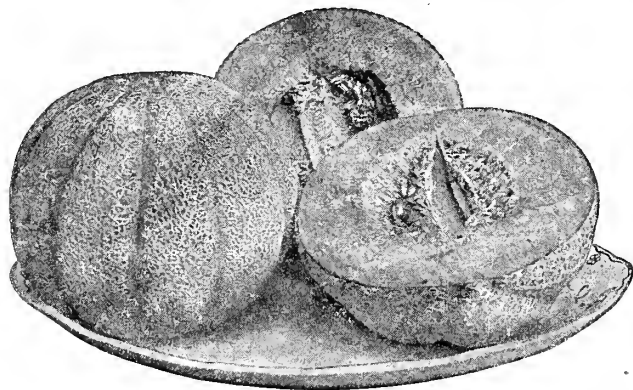
Smaller But Better Than Tip-top

Irondequoit This excellent melon originated in Irondequoit, New York; hence its name. It is as popular in New York City as the Tip-top is in Los Angeles. Some years ago it created a sensation in the lower San Fernando Valley, but owing to the scarcity of seed one year other varieties were planted and this one was neglected. We sent to Irondequoit and purchased some pedigreed seed from the original introducer and now offer you the pure Irondequoit strain.

This melon may well be called the Improved Tip-top for that is what it is. The appearance is similar except the netting which is heavier; it is more solid and less prone to split. The average size is slightly smaller; the flesh is yellow and the flavor unsurpassed. It is an ideal melon for the peddler or the Cafeteria. It is neither too large nor too small; just right. (Pkt. 10c) (oz. 25c) (¼ lb. 85c) (1 lb. \$2.50) postpaid.

A & M MUSKMELONS--Continued

YELLOW FLESH VARIETIES



The Famous Indiana

Introduced at a wayside market several years ago at Gardena by E. Hauenstein.

Motorists soon learned the excellence of this melon and it was not unusual to see a score of machines in front of these places and customers impatient to be waited on. This picture perfectly portrays the melon which has a rich yellow flesh and a flavor that may be compared with the Armenian.

In offering this melon we are quite in line with our established policy of bringing to your attention only the varieties that have been tried, proven and known to be of exceptional merit. We did the experimenting, you take no risk.

Butler Brothers of Lamanda Park, say of it, "It is an improvement over the Tip Top, your seed is pure, the melons are uniform."

A letter from our seed grower says, "All the melons I am growing for you are fully up to your description. The Indiana is by far the best melon that I am growing for you, the seed is very pure as all the melons are uniform in appearance. It is heavily netted, very thick meat and holds up in good condition for several days. (Pkt. 10c) (oz. 30c) (¼ lb. \$1.00) (lb. \$3.00) postpaid.

Melons "I tried out your famous Indiana Muskmelon last season and found them all you claimed. I have never seen a large melon of its equal. Chas. C. Gard, New Mexico."

Heart of Gold A delicious muskmelon of the Rocky Ford type, but larger. Apparently the Rocky Ford was cross-pollinated with the Burrell's Gem. It is a delicious melon whether for home garden or market. (Pkt. 10c) (oz. 20c) (¼ lb. 60c) (lb. \$1.75) postpaid.

Mr. Hauenstein says that the sales by the wayside often exceeded \$200.00 a day, and he sold only the Klondike Watermelon and the Indiana Muskmelon.

Improved Osage This has for many years been one of the leading varieties in the East because of its earliness and excellent flavor. It is of medium size, salmon flesh, with green rind, similar to the well-known Burrell's Gem. Once a customer for Osage, always a customer. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) postpaid.

Improved Burrell's Gem Has established itself as a standard melon. It is one of the biggest yielders. The shipper calls for it because it is solid and carries well in transit. The consumer wants it because of its excellent flavor. The growers all want our seed because we have the best strain. Many growers who bought of us last year have engaged their seed for next season. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) postpaid.

Pomegranate, or Peach-Melon

OLD FAVORITES

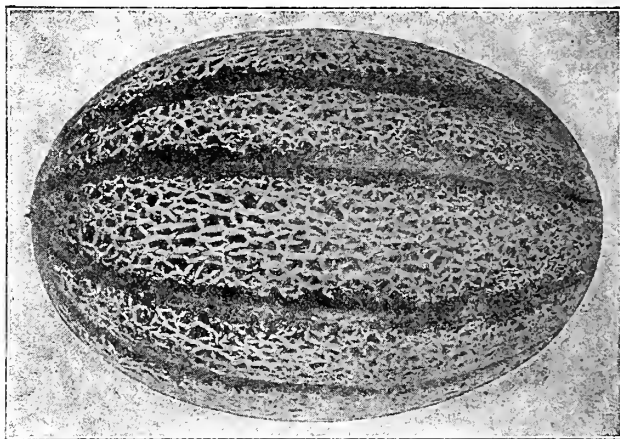
Some long time home garden favorite melons of which we have a limited supply; therefore, we offer in packets and ounces only. All are green fleshed varieties. Price for all varieties: (Pkt. 10c) (oz. 20c) postpaid.

Persian, Green
California Beauty
California Giant
Columbus Green

Jenny Lind, Vineless
Model
Champion Market
Montreal Market

For Mangos.
(Pkt. 10c)

GREEN FLESH VARIETIES



The Original Gautier Pineapple

The Original Gautier Pineapple All old-time melon growers will remember the popularity of the muskmelon introduced at this market by Mr. Gautier, and for years known as the Gautier Pineapple.

It is medium to large size, heavily netted, green-fleshed with excellent flavor; solid and a good carrier.

The true type was running out and fewer of them grown.

We are now able to announce that we again have the true type and recommend it to melon growers that they may again get the Old Original Pineapple Muskmelon. (Pkt. 10c) (oz. 20c) (¼ lb. 60c) (lb. \$1.75) postpaid.

A & M Nutmeg This melon, in appearance, is so similar to the Pineapple that many growers fail to notice the slight difference in shape and netting, but the greatest merit is its excellent flavor. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) postpaid.

A & M Triumph Is similar to the Pineapple, but not so large. This is much in its favor, as gardeners are complaining that the Pineapple is too large. It excels the Pineapple, in the excellence of its flavor, and is two weeks earlier. (Pkt. 10c) (oz. 20c) (¼ lb. 60c) (lb. \$1.75) postpaid.

Jenny Lind An old-time favorite; small, heavily netted, well ribbed, very early and of excellent flavor. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) postpaid.

Large Hackensack Sometimes called Turk's Cap, a large, round melon, flattened at the ends and well ribbed. The skin is deeply netted. The flesh is green, of delicious flavor. It is a strong grower, and is very productive. An old standard melon, in favor with market gardeners. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) postpaid.

Los Angeles Market This is the largest of all the Muskmelon family, and we positively state that none will excel it in flavor. Gardeners object to its large size, but good profit will come to the grower who will plant it. It yields an enormous crop and all melons are very large and beautiful. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) postpaid.

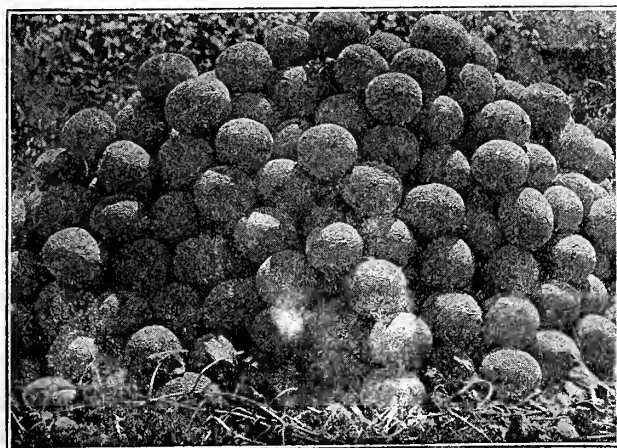
A New Remedy to Combat the Beetle from Wm. E. McAfee, Kentucky:

"I note your preventive remedy for the Melon beetle. We have one here that is very simple, profitable and effective. When you plant your seed, set an onion set in each hill close to the point where the melon plant will come up. After the plant is out of danger you can market the onion if you so wish. I tried this remedy last year and saw but three bugs in my patch and these did no harm. I had the same experience with my cucumbers."

REMARKS

We do not hesitate to state that no market in the world can compare with Los Angeles in the excellence of her melons. The Klondike is a world beater. The Hybrid Casaba is unknown in any other market. The Armenian is in a class by itself. The Tip-top, Indiana, Irondequoit and Burrell's Gem cannot be excelled. All are yellow fleshed melons.

A & M MUSKMELONS--Continued



Pollock 10-25
100% Pure

Rocky Ford-Pollock 10-25 This is the latest improved strain of the popular Rocky Ford. It eliminates every defect of all other strains. Perfect in size, shape, netting, flavor, and long keeping and good shipping qualities. Our seed is from one of the most reliable growers in Colorado. (Pkt. 10c) (oz. 25c) (¼ lb. 75c) (lb. \$2.00) postpaid.

Rocky Ford-Pollock 25 A favorite shipping melon. Solid, heavily netted, entirely without ridges; a salmon tinted flesh of excellent flavor. This is the Rockyford so famous throughout the country. (Pkt. 10c) (oz. 25c) (¼ lb. 75c) (lb. \$2.00) postpaid.

Our Gold Lined Netted Rock This is the Rocky Ford with the tinge of yellow around the seed cavity bred up to the highest state of perfection from the rust-resistant strain. The heavy netting forms a rind so hard that it will ship to the far Eastern markets with practically no deterioration. The flavor outclasses all other strains of Rocky Ford. Turlock growers and shippers will have no other. (Pkt. 10c) (oz. 25c) (¼ lb. 85c) (lb. \$2.25) postpaid.

A & M Watermelons

Write United States Department of Agriculture, Bureau of Plant Industry, Washington, D. C., and ask for "Farmer's Bulletin No. 821," Watermelon Culture.

Culture.—Plant the seed in a furrow, dropping six seeds every eight or ten feet apart; cover about two inches. As the vines grow, hill the earth about them until the roots are ten to twelve inches deep. When the vines are safely established, thin out, leaving only two vines to the hill. It is a good plan to establish your rows by throwing the soil toward the center, with one round of plowing, and cultivate every week during the early growth of the plants. This gives deep cultivation at the time it is needed, mulches the soil properly, makes proper rows slightly raised in the center, allowing a low place between for irrigating. Be sure to cultivate after each irrigation, as soon as the nature of the soil will permit. If these instructions are carefully followed you will have thrifty vines throughout the season.

For Melon Blight—Mr. Van Norman of San Gabriel says: "Cover the centers where the blight first appears, with soil. It gives new life to the vines and prevents the spread of the blight."

For Melon Wilt—Pour a cup full of Bordeaux Mixture at the mainstem so that the earth will be saturated and the liquid thoroughly applied to the stem. Here is the seat of the trouble, whether fungus or an insect, and the Bordeaux will remove the cause. Butler Bros. of Lamanda complained to us that their vines were dying of wilt. We recommended this remedy which they at once applied only to the vines attacked, with the result that the vines revived, and in one night appeared to have made a new growth of six inches. They then applied it to the entire field, and saved it for the season. But Mr. Butler says toward the close of the season it appeared again, and he believes the Bordeaux should be applied at least twice during the season.

See Front Cover

Chilian For twenty years the leading melon and just as popular today as at any time, and is likely to continue its popularity for many years to come. Its thin rind and delicious flavor commend it to the consumer, but its good shipping and selling qualities make it a favorite with the grower and dealer. It is very prolific and just a desirable size for the peddler to handle, and every melon is a good one.

White Seeded Chilian Preferred because of its large average size.

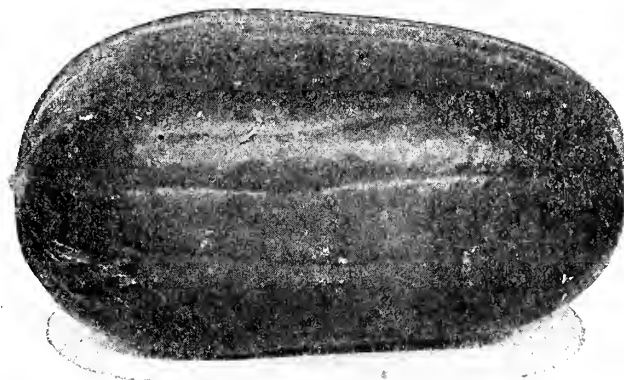
Red Seeded Chilian Preferred because of a sweet flavor peculiar to itself, and earliness.

Black Seeded Chilian Preferred because of its earliness, short crop and black seed, which gives it preference at restaurants, hotels and cafeterias.

All Chilians are good regardless of the color of the seed, but the Black Seeded one is planted for early crop.

Price of all Chilians (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) postpaid.

See Front Cover



True Type of Pure Klondike—the best Melon that ever grew. Brown seeded.

Last season our seed field of Klondike was so seriously intermingled with volunteer vines of other varieties, due to the carelessness of the grower that we were obliged to condemn the field. We sought other sources for good seed, but could not find a field that was not intercropped with, or grown near other varieties; therefore, we were without seed. When this became known grocers who had seed sold as high as \$10.00 per lb. This is another evidence that our house is a public benefactor, and that the "middle-man" has no monopoly on profiteering.

The fame of the Klondike has spread to other cities in California, and tourists have sent seed to other states from whence we receive the same expression of appreciation that we get in Los Angeles. Wherever it is grown it is the best melon—always selling at a higher price than other melons. If you would grow for your own table or for market you will make no mistake to plant Klondike.

Black Seeded Klondike Same as Brown seeded Klondike with an almost imperceptible mixture of Chilian. It is preferred by shippers and at restaurants because of the black seed. Our strain of black seed is nearly as pure as the original brown seed strain. Do not hesitate to select our seed. (Pkt. 10c) (oz. 40c) (¼ lb. \$1.35) (lb. \$4.00) postpaid.

"The seeds which you sent to me are growing in very good condition. The seeds are very good in my homestead garden. With the A. & M. Seeds I will try my very best to lead in the Homestead Garden Contest. A. & M. Reliable Seeds are chosen for my garden.

Christian Saulili, Homestead, T. H."

A & M WATERMELONS--Continued

Klondike This is now indisputably the most popular melon on the Los Angeles market. Why? Because it has a flavor quite as distinct from other watermelons as is a Bartlett pear from any other pear, and is sweeter even to the thin rind than any other. It is popular with the grower because it is wonderfully adapted to dry farming; wonderfully prolific, early, long and continuous bearing; the vines seem in their prime in September and October, long after other varieties have disappeared. Planted in rows twenty feet apart on dry soil that has been scientifically prepared the vines will interlace.

The seed is small. One pound of Klondike will number as many seeds as two pounds of other varieties. The color of the seed is brown, mottled black. (Pkt. 10c) (oz. 40c) (¼ lb. \$1.35) (lb. \$4.00) postpaid.

Read This—The Value of Pedigreed Seed

A trip through the market during the melon season showed in marked contrast how popular the Klondike is as against all other varieties. It is no exaggeration to say that 70% of all the local grown melons were the Klondike variety; 25% were Chilian and Angeleno, and 5% other varieties.

But a trip through the melon growing sections last fall revealed the fact that only a few fields were fairly true to type. Much of this is due to the fact that our 1919 seed field had to be condemned, therefore, there was no pedigreed seed to be had at any price, but much more is the fault of indifference on the part of the grower who will plant Klondike and replant with Chilian and even allow Citron to grow in the field, and from this crop of mixed melons will save seed to be planted the following year with the result that 15% of his melons are culls left lying in the field; 35% are salable but inferior and contribute to holding down the price of the remaining 50% of good melons. Mr. Grower, don't save seed from fine large melons grown with other varieties; it causes you a loss of 25% in the succeeding crop.

If your field was mixed last season and you saved the seed, better through it away and buy our pedigreed seed. This advice applies to all other melons, casabas and cantaloupes.

Get a new start, then keep your fields clean and your melons pure. Start with our pedigreed seed.

POPULAR SHIPPING MELON

Irish Gray

A New Watermelon. This new watermelon has the merit to become very popular as a shipper, also, as a late melon. The introducer describes it as follows: "The color of the rind is yellowish grey, resembling a variety of Citron, it will keep in good condition for a long time after being taken from the vine, and stand long distance shipping better than any other melon, the flesh is bright sparkling red, very sweet and firm. As a home market melon it is better than Kleckley Sweet and for distance shipping it is far better than Tom Watson; it will produce 25 per cent more good melons than Tom Watson under the same conditions and carry 1,000 miles and back over the same route then open as good as a freshly picked Tom Watson, the rind will not sun-bake, the vines are most vigorous and wilt resistant."

(1 pkt. 10c) (oz. 20c) (¼ lb. 75c) postpaid.

A letter from our Grower:

"I feel that you will want to increase the order before the season is over next spring. I consider the Irish Gray the best melon for all purposes ever offered the American people. I have shipped this season several hundred cars and only one complaint. This was from a car of very small melons and they did not cut as good as the larger sizes, but a Watson of the same size would be worthless. One car was shipped to Seattle from Auburndale, Fla., 25 days in transit and arrived in splendid condition."

The Tom Watson

has for several seasons been the most popular melon in the South. Its shape is similar to the Kleckley Sweet, but the color is a lighter green. Its great merit is in its earliness, good flavor, thin rind, and good keeping qualities, making it one of the best of shippers. It is popular in the San Joaquin Valley. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) postpaid.

Kleckley Sweet

This is an excellent melon either for the home garden or for shipping. It is of medium size, a very green rind, with deep red flesh of delicious flavor. Our seed positively cannot be excelled. (Pkt. 10c) (oz. 20c) (¼ lb. 40c) (lb. \$1.25) postpaid.

The Excel

A new black seeded melon that has made a sensation in the South and in the San Joaquin Valley. Its surpassing merits are in the size (average weight per melon in car is 35 pounds), enormous yield, and excels all others as a shipper.

We planted an acre on our trial grounds and find it is not only all that is claimed for it, but we were surprised at the excellence of its flavor.

We recommend it to all shippers who want a very large melon. (Pkt. 10c) (oz. 30c) (¼ lb. \$1.00) (lb. \$3.00) postpaid.

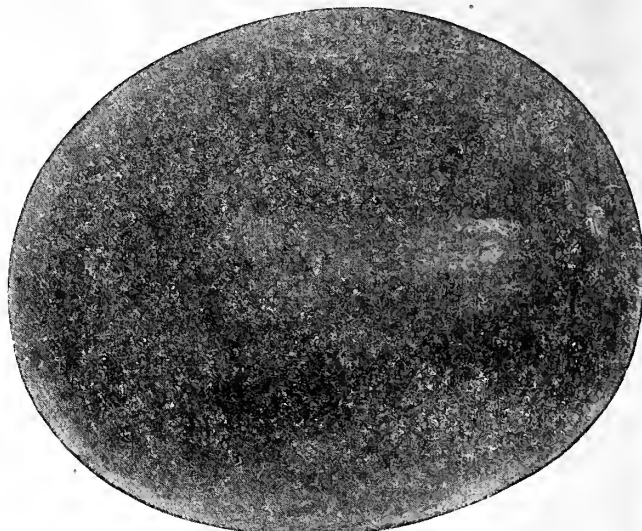
Florida Favorite

This melon is very popular with shippers, because of its extreme earliness, and all round good qualities as a good shipper. In appearance it is similar to the Rattlesnake, the rind being considerably darker. (Pkt. 10c) (oz. 20c) (¼ lb. 40c) (lb. \$1.25) postpaid.

ANGELENO

The Melon for the Shipper

See Front Cover



Black-seeded Angeleno

Important Notice.—Owing to the tendency of the seed of this melon to split open, we advise you to soak the seed in water for only a few hours. It soon closes and is ready to plant, and every seed will germinate, but if planted before soaking, the seed fills with dirt and decays. Please, heed this notice.

White Seeded Angeleno

The most attractive in appearance of all watermelons,—its large size, beautiful dark green rind with a tinge of gold showing through the green. No other variety compares with the Angeleno in its bright red flesh, red to the rind and entirely free from fibre, simply melts to water, and not excelled in flavor. If the picker will observe the gold showing through the green as soon as it is ripe, he need never pick an unripe melon.

As a shipper it is extraordinary because it rarely breaks, even supporting the weight of a man weighing 170 pounds. A carload will average in weight from 25 to 30 pounds to the melon. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) postpaid.

Black Seeded Angeleno

Owing to the persistent demand for a black seeded melon, we have by hybridizing the Angeleno with the Black Seeded Chilian, and by four years of selection, succeeded in producing a pure Black Seeded Angeleno. It lost none of its excellence; indeed, if it were possible, it has improved. This improvement is noticeable in melons that show a trace of the stripe of the Chilian. When you see the stripe you know it is a good one. (Pkt. 10c) (oz. 20c) (¼ lb. 65c) (lb. \$2.00) postpaid.

If you want a black seeded melon, do not hesitate to plant the Black Seeded Angeleno. It is all right.

Mr. Reeve, melon grower and shipper, reports: "Last season I planted 150 lbs. of your Black seeded Angeleno, some in Imperial Valley and some in San Joaquin Valley. They were the best melons ever shipped from these places. Book my order for 800 lbs. for next season."

Red Seeded Angeleno

In the process of breeding the Black Seeded Angeleno we have some Red Seeded Angeleno. This melon differs only in showing more of the stripe of the Chilian. The quality of the melon excels in sweetness the pure White Seeded Angeleno. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) postpaid.

Peerless

Also called Red-fleshed Ice Cream. This is the melon that proved so popular in Oregon and Idaho last season. It is early, a good shipper and a delicious melon. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) postpaid.

Rattlesnake

Has long been a popular melon with shippers. It is a long melon, having a white rind, with dark green stripes. Flesh of excellent flavor. (Pkt. 10c) (oz. 20c) (¼ lb. 40c) (lb. \$1.25) postpaid.

Yellow-Fleshed Ice Cream Watermelon

This melon grows a very large size, is long in shape and the rind an even dark green. In quality it is simply delicious, sugary and of a rich flavor peculiar to itself. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) postpaid.

A & M WATERMELON—(Continued)



Delicious Winter Melon

Winter Melon This new melon is slowly but surely forcing itself into favor because of its many good qualities which are not apparent at first acquaintance. Like the Casaba which required 12 years to establish its reputation. The Winter Melon might easily be mistaken for a small white citron and the dealer must be convinced, then in turn must convert his customers to the knowledge that the Winter Melon is a thing of great luxury. It is late to mature; very light in color with a suspicion of a stripe; size 10 inches in diameter; seed small shiny black, flesh pink, solid and stringless. The flavor when cold is sweet, crisp and surprisingly delicious, and when you have finished you realize that you have eaten a melon as entirely distinct from a water melon, as the Casaba is apart from the Cantaloupe and just as delicious. Like the Casaba it should not be eaten right off the vine, but be allowed to lie around until the first signs of decay. It decays slowly like an apple, not like other watermelons. We prophesy this year of 1919 that the melon will be, sooner or later, handled in carlots for late fall shipping, as is the Golden Beauty today, because it has merit that will win.

(Pkt. 10c) (oz. 20c) (¼ lb. \$1.00) (lb. \$3.00) postpaid.
Read this from Mr. Walker Jones, Horse Canyon Ranch, Phelan, Calif.:

"I experimented with a great variety of seeds from your house. The Winter Melons did best of all here, and were of the first to ripen—were most delicious melons I ever ate. Chilians did next best. Tried out over 20 kinds. Elevation here at 4,550 at north base Old Baldy.



Large Green Striped Citron. Wt. 60 lbs.

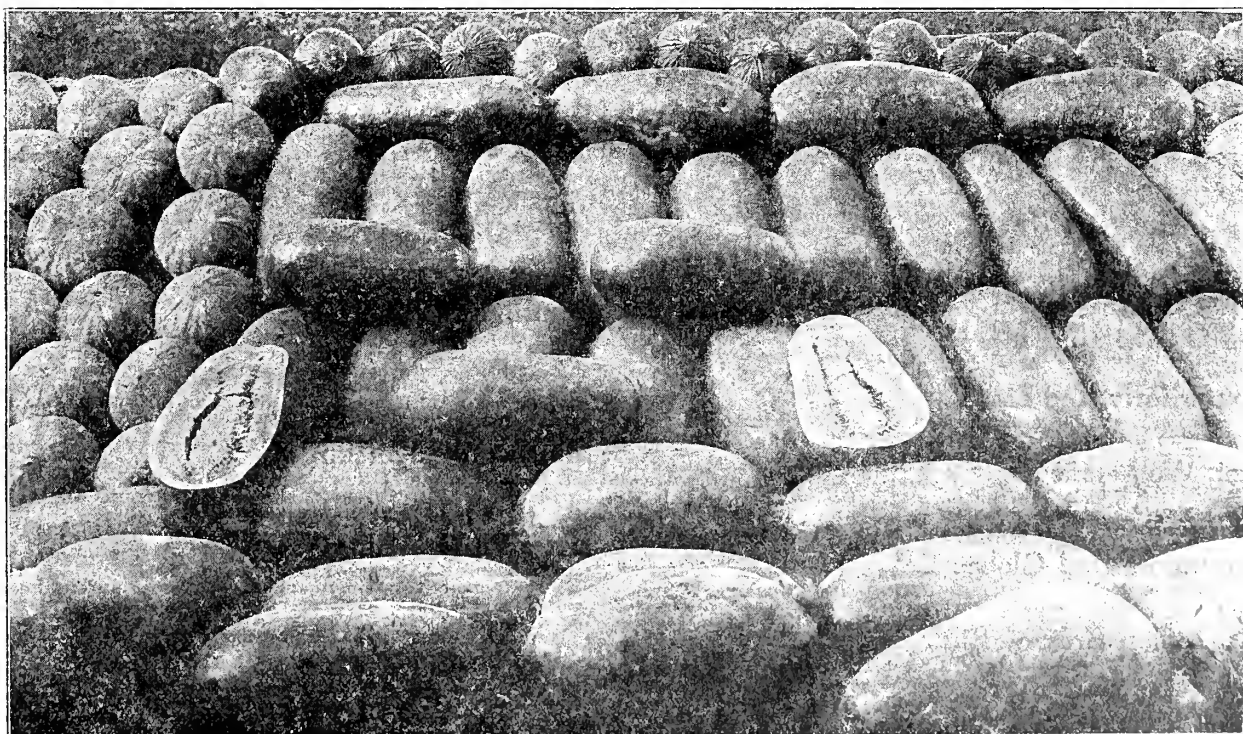
Citron Large Green Striped

Weighs from thirty to sixty pounds. Is better than pumpkin for stock. Allowed to lay in field or piled in the barnyard will not be damaged by frost nor decay until the following summer. (Pkt. 10c) (oz. 20c) (¼ lb. 35c) (lb. \$1.00) postpaid.

Preserving Citron Red Seeded, small round melon. This melon with a proper portion of lemon makes an excellent preserve that is as good as marmalade. (Pkt. 10c) (oz. 20c) (¼ lb. 40c) (lb. \$1.25.)

Our Selected Melon Seed Owing to our extensive trade with large melon growers and associations, we exercise every precaution possible to secure the best type of melons. Having procured the best seed obtainable, we have them grown especially for us. Our seed fields proved the wisdom of this method, for they showed the highest per cent of perfect melons.

Bran Mash for Cut Worms Paris Green 1 lb., lemons 3, molasses 2 qts., water 3½ gals, bran ¼ bu. Mix bran and Paris Green dry; cut lemons into fine pieces. Mix all thoroughly. See page on Insecticides.



Armenian

Golden Beauty

Excel Melons

This picture was taken at the field by our grower.

A & M Onions

Write
California Agricultural Experiment Station
Circular No. 199
Onion Growing in California
By Stanley B. Rogers

Culture.—No crop is so liable to variations by cultivation and soil as the onion. Having rich soil with too much irrigation will produce thick-necked scallions, while the same soil, well drained, would produce the finest onions. A sandy loam well fertilized is best.

No vegetable is so sensitive to variation of climate as the onion. It is of utmost importance that the right variety is selected for each month in the year, and for your particular climatic conditions.

Either drill the seed thinly in rows fourteen inches apart, or sow the seed in seed beds, and when the plant is as thick as a straw, transplant on ridges; set two rows on each ridge and four inches apart in the row.

Irrigate in the furrow between the ridges to avoid flooding the onion, which causes the onion to rot readily, rendering it unfit to ship or to keep.

To succeed in growing onions it is highly important to make a proper selection of seed suitable to the time of planting. West of the Coast Range plant the Queen variety in August and September. They will then attain marketable size in March and April. If, however, the weather during February and March proves to be cold and rainy, a large percentage will shoot to seed. We advise that you pinch of the seed stem close to the onion. It will heal with no damage to the onion. East of the Coast Range, where the temperature is more uniform as in Coachella and Imperial Valleys, plant the Crystal Wax or Bermuda onion in September. We advise planting all other varieties from October until April, selected according to the market in which they are to be sold, and the facilities for irrigating.

The consuming public prefers a white onion. The retail merchant wants a yellow onion because the white are too perishable. The shipper will handle the yellow, but prefers the brown because it is the best keeper.

The White Australian should prove popular because of its good keeping qualities.

Three pounds of seed are required to plant one acre for dry mature onions. One ounce will plant one hundred feet of row. For bunching onions, plant one-fourth pound of seed to 100 feet of row.

We claim our onion seed to be the highest type as to germination and purity. When you wish to plant onions consult us as to when, how and what variety to plant.

Onions intended for storage or long keeping should be taken up while the stems are yet green, just showing a tendency to dry up. Experience has proven that this is the best time. When allowed to remain in the field too long they are liable to be sun-scalded, or attacked with smut.

MARKET:—The market for onions is large; no other vegetable is in such wide demand and is used largely by all nations over the entire world, yet on account of the perishable nature a wide distribution is not possible; therefore, an over-production is soon a drug on the market and the grower finds the crop worthless.

Therefore, when planting them, select the variety according to the market for which they are intended, also with regard to time of planting in your locality.

For shipment, you will make no mistake to plant Riverside Sweet Spanish, from September 15th until March; White Australian or Silver-skin, Southport White Globe, November 1st until April 1st, and the Australian Brown from January 1st until April 1st.

For early local trade plant New Queen.

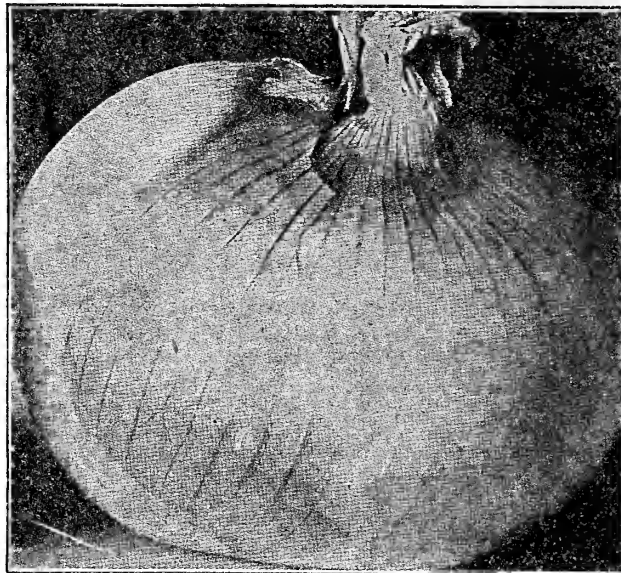
Extra Early Red Flat This is the early onion grown in the Sacramento Valley for the San Francisco market, where it is in great demand. (Pkt. 10c) oz. 25c) (¼ lb. 80c) (lb. \$2.50) postpaid.

Red Wethersfield Probably the most popular red onion, and the one grown more largely throughout the United States than any other. It is a large, medium flat onion of excellent mild flavor. (Pkt. 10c) (oz. 20c) (¼ lb. 75c) (lb. \$2.50) postpaid.

Southport Red Globe This beautiful onion is coming into favor here. It keeps better than other red varieties. (Pkt. 10c) (oz. 20c) (¼ lb. 85c) (lb. \$2.75) postpaid.

Australian Brown Quick to mature; a good keeper; solid and heavy; an excellent onion for shipping. The skin is a light brown. Its solidity gives it great weight and a sack weighs several pounds heavier than a sack of other varieties. The onions are thin-necked and ripen very early in all soils. As the plant makes a very quick growth it matures the bulbs before the hot, dry summer weather sets in, and this in connection with its exceptional keeping qualities makes it a most profitable variety. (Pkt. 10c) (oz. 20c) (¼ lb. 60c) (lb. \$1.75) postpaid.

A Good Shipper



White Australian

White Australian As compared with the Brown Australian—shape, the same; size, one-quarter larger; keeps as well; is earlier; color is nearly pure white.

Our grower says: "The field of White Australian shows fewer scallions than the Brown. They are a decided improvement over the Brown in every way as well as color."

Five years ago we had a quantity of this seed which was widely distributed. In New Mexico, Arizona, Texas, and in the San Fernando Valley, California; everywhere it was grown it attracted attention because of its superiority. At that time it was not yet true to type; the seed produced many odd colors, but not withstanding this fact, the growers wanted it year after year. But we withdrew it until we could by selection produce a white onion true to type. Now after three years of selection we offer you a pure White Australian Onion. (Pkt. 10c) (oz. 50c) (¼ lb. \$1.50) (lb. \$4.50) postpaid.

White Portugal, or Silverskin A good second early white flat onion to follow the Extra Early White Queen. It should be planted any time from November 1st until April 1st. It is a good keeper and desired for shipping. It has long been a favorite, and probably no other variety is more generally popular with growers throughout the United States. Under good cultivation the average diameter is from four to six inches. The thick skin is a clear silvery white, flesh snowwhite, sweet and tender. (Pkt. 10c) (oz. 25c) (¼ lb. 80c) (lb. \$2.50) postpaid.

Southport White Globe This onion now easily leads all other varieties in popularity on the Los Angeles market, and is selling more readily and at higher prices. It is a good keeper, either in the field or in cold storage. It is a silvery white in color, globe shaped, and of delicious flavor. It is the popular onion with the shipper. (Pkt. 10c) (oz. 30c) (¼ lb. \$1.00) (lb. \$3.00) postpaid.

Mammoth Silverskin A very early large white flat Onion. One of the very best for the home garden, either as green bunching onions or for large dry onions. It is not a good shipper. (Pkt. 10c) (oz. 50c) (¼ lb. \$1.05) (lb. \$5.00) postpaid.

Extra Early White Queen This is by far the earliest and best onion to grow in Southern California. Planted during August and September it attains marketable size in March and April and is sold on the local market as early as the Bermuda. Local growers market them while quite young, cutting the top off close to the onion. They harvest only what can be sold from day to day.

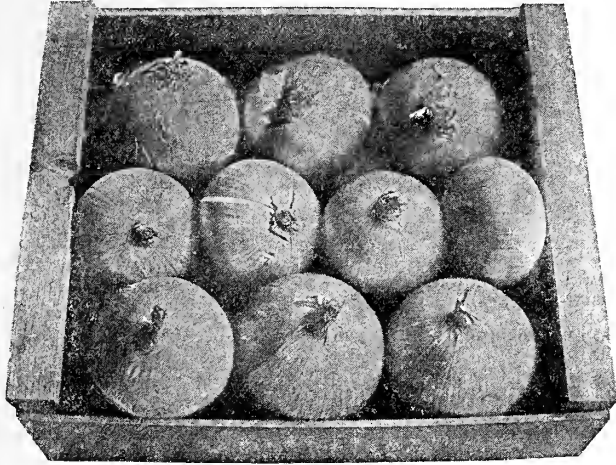
This practice is very profitable for the reason you are selling a green onion at the price of the early dry onion. For three years we have been unable to obtain seed, on this account growers have used other varieties. But now that sufficient seed may be had we advise growers for local markets, it will add greatly to your profit to plant the Queen Onion next August and September. (Pkt. 10c) (oz. 40c) (¼ lb. \$1.35) (lb. \$4.00) postpaid.

A & M ONIONS—(Continued)

Large Onions are now the style. This has been brought about by the introduction at Riverside, Cal., of

The Famous Riverside Sweet Spanish

See Back Cover



Riverside Sweet Spanish; 10 onions fill a lug box 14x17 in. Very large, light yellow, globe shaped, small top, good shipper.

This Onion was brought from Spain several years ago. A small acreage was grown, the product of which was sold at the stores of Riverside, California. The unusual mildness and excellent flavor made this onion popular at once. A larger acreage was grown and the popularity broadened until the onion is in demand in Portland, Oregon, Chicago and as far east as Detroit, Michigan. The grower is receiving seven cents per pound while the market price of onions is only three and four cents.

It is a good keeper and not prone to smut, we do not say it is immune but the grower gives the following directions for curing and keeping this onion and if followed there is little likelihood of smut.

Plant in December or January. It will mature in September when there is no danger from sun scald. Allow the onion to thoroughly mature until the tops have fallen and dried and decayed.

Then pull the onions and allow them to remain in the field in rows well covered with the tops, which after a week of favorable weather become as dry as chaff. The tops are then rubbed off and the onion put in crates and stacked loosely in a shaded but well ventilated place. After four to six weeks the onion is so thoroughly cured it may be safely shipped to any city within the United States.

Seed is very scarce but it will be very profitable to the grower who will plant this onion.

To obtain the highest price, this variety should be planted about February 1st; they will then mature about Aug. 1st, and if the prevailing price is too low put them in cold storage. (Pkt. 15c) (oz. 75c) (¼ lb. \$2.50) (lb. \$7.50) postpaid.

Riverside Sweet Spanish

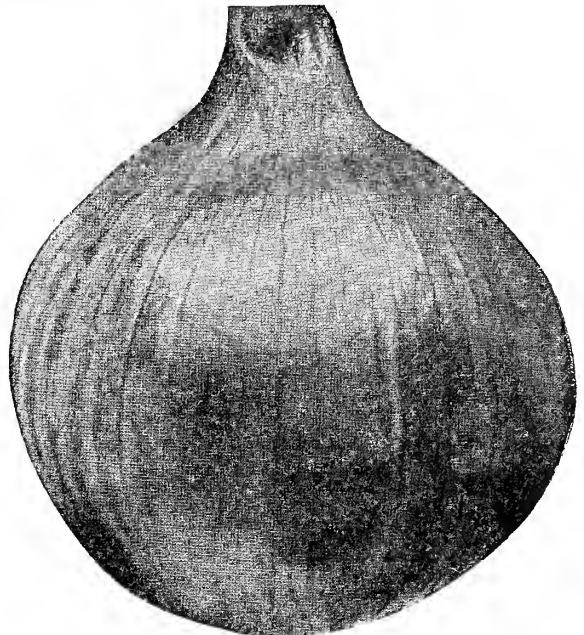
One reason that the Los Angeles Market excels all the markets of the world in excellence of vegetables is that when Aggeler & Musser Seed Company offer anything that has merit they never let up boosting it until all the world knows how good it is. This Riverside Sweet Spanish Onion is the latest. Be sure to plant it for the home garden, and do not hesitate to plant it in any acreage large or small.

The season of 1920 has broadened the popularity of this onion to such an extent that the grocers will buy no other when this may be had. The reason is that when the consumer once tastes it he insists upon getting more. Mr. W. A. Falker of Redondo grew sixteen tons per acre on sandy soil. Many of them were so large that twelve of them nearly filled a lug box. G. M. Louie of Hynes grew an enormous tonnage on heavy alkaline soil. He stated that the average size was too large to set two layers in a lug box. But bear in mind it is not size of which we are boasting, it is its excellent mild flavor. When eaten with salad there is not the unpleasant taste of the strong onion and leaves no unpleasant breath.

Yellow Australian At the same time we were by selection fixing the type of the White Australian, there developed an unusually large pure yellow onion which we selected, and now we have only a few pounds of seed. We do not hesitate to advertise this as the largest type of yellow onion in existence. It is much larger than Giant Gibraltar and would surely take a Blue Ribbon at any fair.

(Pkt. 10c) (oz. 65c) (¼ lb. \$2.00) (lb. \$6.00) postpaid.

Mr. A. E. Imbler, our grower, says of it: "They are in shape nearly a globe and field run is nearly uniform in size, from 1 to 2 pounds. With better care I believe they would run twice the size. They keep well for a large onion and are very mild. I think they should be grown extensively."



Prizetaker

Prizetaker A large Yellow Globe Onion of finest flavor, handsome shape and enormous size, many single onions having been raised to weigh three pounds or over. The Prizetaker grows always to a perfect globe shape with a bright straw-colored skin. (Pkt. 10c) (oz. 20c) (¼ lb. 65c) (lb. \$2.00) postpaid.

J. H. Peck, Selma, Cal., writes: "I planted ¼ lb. of your Prizetaker onion seed last year on March 4th on just one-tenth of an acre on reclaimed tule land, never irrigated at all. I harvested 95 sacks of 100 pounds each of fine marketable onions weighing from ½ to 3 pounds each."

Giant Gibraltar Large, Brownish Yellow, somewhat flattened on under side; often weighing four lbs. Is a good keeper and is known to be adapted to climatic conditions of the southwest. (Pkt. 10c) (oz. 50c) (¼ lb. \$1.50) (lb. \$5.00) postpaid.

Denia One of the large Spanish types with extraordinary mild flavor; nearly a globe shape, slightly flattened, color light yellow. It is popular in the south and we recommend it to gardeners having a large local trade, and who want the heaviest yield possible. (Pkt. 10c) (oz. 35c) (¼ lb. \$1.20) (lb. \$3.50) postpaid.

Ailsa Craig Large, Light Yellow, globe. Average weight of 600 onions from one row (not selected) 2½ lbs. Extra selected 3 lbs. 9 oz. Probably the largest and heaviest cropping onion. (Pkt. 10c) (oz. 50c) (¼ lb. \$1.65) (lb. \$5.00) postpaid.

Ohio Yellow Globe This onion is the standard winter sort in many markets. The shape is almost globe form and the bulbs are quite large with thin necks. The skin is yellow, while the flesh is pure white, solid and of good quality. Its earliness makes it valuable for market. The crop is very uniform and ripens at one time. (Pkt. 10c) (oz. 25c) (¼ lb. 80c) (lb. \$2.50) postpaid.

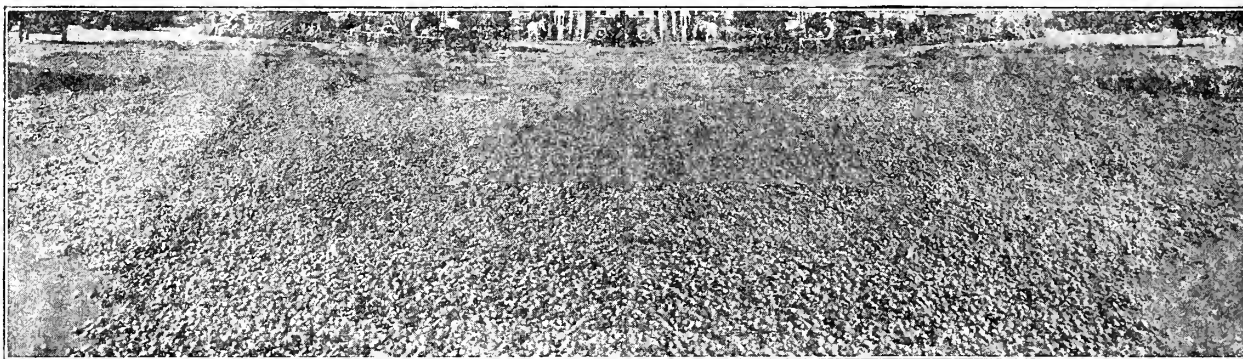
Yellow Flat Danver Similar to the Yellow Globe in color and quality, but somewhat flattened in shape, and is earlier. It is a fine large onion with a very small stem. (Pkt. 10c) (oz. 20c) (¼ lb. 60c) (lb. \$1.75) postpaid.

A & M GARLIC

Cultural Instructions from a Professional Grower—"I am of the opinion that it would take 250 lbs. to plant an acre of Garlic. I make my rows two feet apart; make double rows, the garlic about four inches apart in the rows each way. I believe in good soil I can raise between four and five tons per acre. Weeds must never grow in garlic, and it needs plenty of water regularly. If you leave it suffer for either water or cultivation it matures before good size. Garlic planted October 2nd, matured May 7th. The Large White Garlic planted the same time matured in June.

Market—The demand for garlic is limited but insistent and the price has a wide range. Before 1914 the normal price ranged from six to twelve cents. The fall of that year and during 1915 the price advanced to twenty-five cents per lb., during the fall of 1917 the price dropped to no market at four cents. While the fall of 1919 it advanced to ninety cents. (Per lb. 40c prepaid).

A & M ONIONS--Continued



A carload of Silverskin Onion Sets

Australian Brown, Yellow Danver (lb. 35c) and Silver-skin (lb. 40c) prepaid. Write for quantity prices.

Growers of Bermuda Onions

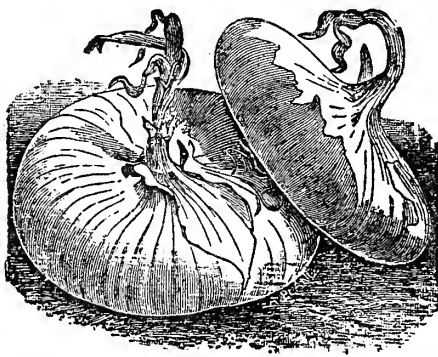
We have a limited number of Prof. F. W. Mally's Bulletin on the subject of the Bermuda Onion.

It is thorough and complete in every detail of the culture of this onion—preparation of the soil, seed beds, preparation of the field, planting culture, irrigation, cultivation, fertilizing, harvesting and marketing.

Much of the cultural instructions in this book will apply to other than The Bermuda Onion.

If you wish this Bulletin, send five 2-cent stamps either to us or to the Commissioner of Agriculture, at Austin, Texas.

Crystal Wax and Yellow Bermuda



Crystal Wax Onion

These two varieties go hand in hand; they require the same climate and culture; where one thrives the other also thrives. They mature at the same time and bring about the same price on the market.

The Crystal Wax is a medium sized pure waxy white onion. The Yellow Bermuda is about the same size as the Crystal Wax, but a yellow straw color.

These are the varieties that are grown in South Valley to the exclusion of every other variety. Why? Because they are adapted to that climate; because when planted the latter part of September they mature in March and April, just when the market is bare and the price is highest. Onion growers are satisfied with 300 crates per acre, and 25% off color. Our seed produces 500 to 800 crates per acre, with less than 1% off color.

Crystal Wax—(Pkt. 10c) (oz. 75c) (¼ lb. \$2.50) (lb. \$7.50) prepaid.



Yellow Bermuda Onions

Grown by J. A. Crider, at the University of Arizona

Yellow Bermuda—(Pkt. 10c) (oz. 50c) (¼ lb. \$1.65) (lb. \$5.00) prepaid.

Red Bermuda In shape, like the White Bermuda, color a pale red.

Planted during January matures latter part of June. No other onion is ready for use so quickly after planting seed. It is the right onion for the Home Garden.

(Pkt. 10c) (oz. 35c) (¼ lb. \$1.20) (lb. \$3.50) prepaid.

A & M Onion Sets

The earliest onions are grown from sets planted in September. This brings them in the market in February and March, when prices are highest. About 250 lbs. of sets will plant one acre.

For the home garden no vegetable is so valuable as the onion, and for this purpose it is better to plant sets, because they are ready for the table six weeks after planting. Set them three inches apart in rows six inches apart. When ready for use, take up every other one as needed, allowing the balance to grow to mature size. One pound of sets will plant about fifty feet of row. (Lb. 40c prepaid) (10 lbs. \$2.00 f. o. b. here). For larger quantities write for prices, which range from \$15.00 to \$20.00 per 100 lbs.

Bunching Onion

Many think any white onion will do for a bunching onion, but this is not true. Our growers for fancy trade have learned that we have the best strain of seed for this purpose, and our sales amount to thousands of lbs. each year. The picture shows a sample of what our seeds produce. They are just the right shape. (Pkt. 10c) (oz. 25c) (¼ lb. 80c) (lb. \$2.50) prepaid.



Bunching Onions

A & M Parsley

Culture—Same as lettuce.

Champion Moss Curled Extra dark. Leaves crimped and curled, giving a most beautiful decorative appearance. (Pkt. 10c) (oz. 20c) (¼ lb. 40c) (lb. \$1.25) prepaid.

Emerald or Dwarf Extra Curled Leaves tender; beautifully crimped; handsome, bright green color; very ornamental. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) prepaid.

Extra Double Curled A good curled variety for garnishing. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) prepaid.

Hamburg Turnip Rooted Fleishy vegetable roots for soups, etc. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) prepaid.



White Velvet

A & M Okra

Early Greenpod

A good and healthful vegetable for a summer crop.

Culture—Plant seed from April 1st until Aug. 15th. Plant six to ten inches apart in rows three feet apart. One ounce will plant one hundred feet of row.

We have for a long time endeavored to produce an okra that is earlier than the White Velvet, which has long been the popular market variety. We have succeeded by selection, in producing not only an earlier variety, but a much more tender and prolific okra, and have named it Aggeler & Musser's Early Greenpod.

It is just the thing for the truckers in the Coachella and Imperial Valleys, because it matures in April, fully a month ahead of other varieties; bears continuously until late in the season.

The pods are three to four inches long, deep green in color, and when young are absolutely stringless.

Every early trucker should have this variety. (Pkt. 10c) (oz. 20c) (¼ lb. 45c) (lb. \$1.25) postpaid.

White Velvet

On account of its attractive white color, good flavor and tender pods when quite young, it has long been a favorite variety. (Pkt. 10c) (oz. 20c) (¼ lb. 45c) (lb. \$1.25) postpaid.

Mammoth Long Pod

We have greatly improved the original strain and now its productiveness is simply wonderful, the pods shooting out from the bottom of the stalk within three inches of the ground, and the whole plant is covered with them to the height of a man's head, five or six feet. Pods are an intense green in color, of unusual length, nine or ten inches, tender, and of good flavor. (Pkt. 10c) (oz. 20c) (¼ lb. 45c) (lb. \$1.25) postpaid.

A & M Parsnip

Our New French Parsnip

Just right for the market gardener. The picture shows the actual size at time of marketing. It grows slightly larger, but it attains this size in ninety days, which is a full month earlier than other varieties. It is crisp and succulent. It at once superseded all other varieties because of its all-round desirability. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) postpaid.

Devonshire

This Parsnip was recommended to us by our European growers. Today it is the most popular Parsnip with our market gardeners. It is scarcely more than half as long as the Hollow Crown, but it is often three inches in diameter. Tender, and has an excellent flavor. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) postpaid.

Hollow-Crown

Has long been a favorite in the family garden on account of its excellent table qualities. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) postpaid.

New French Parsnip
Actual Size



A & M Peanuts

Spanish Peanut

More Profitable Than the Georgia to the Small Grower

This is the small Round Peanut used so largely in confectionery lines. One would suppose that on account of the small size it would be unprofitable to grow. But not so. Mr. Moore, residing on the Laguna Ranch, says it is more profitable to the grower than the Georgia because it is enormously prolific, and grows in a compact bunch on a small vine so that they may be stripped easily by pulling the entire stalk through the hand instead of picking one by one. This advantage together with the ready sale at a higher price makes the small Spanish Peanut more profitable than the Georgia. (Pkt. 10c) (¼ lb. 25c) (lb. 50c) postpaid.

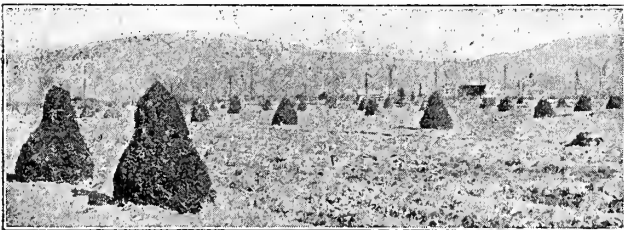
Write Department of Agriculture, Washington, D. C., ask for Farmers' Bulletin 1127.

READ—The Peanut is too much neglected. Its various uses are of great economic value. Its value as a food is well-known, but few ranchers realize its value as a soil renovator, adding humus and nitrogen. As hog food, there is nothing better. The straw is rich in food value and may be pastured green, cured as hay or ensilage, and the yield of hay is from four to five tons per acre. It grows on soil that may be too sandy for other crops. Therefore, if you have sandy soil, make it valuable, by planting peanuts.

MARKET—There are a number of factories making Peanut Butter and by-products. It is here you can always find a buyer.

Reclaim poor sandy soil with peanuts.

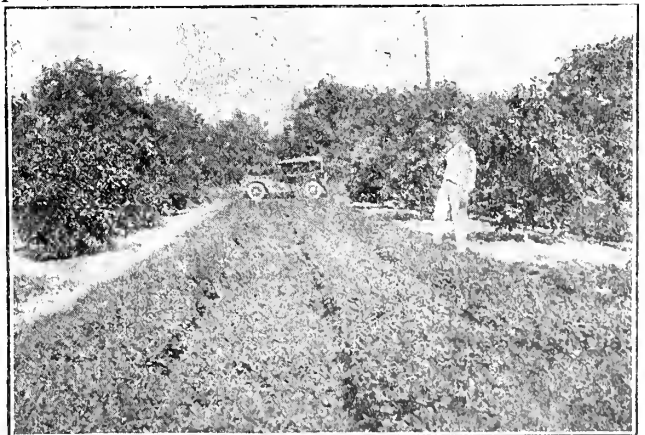
Give an application of lime 1000 lbs. per acre. Inoculate the seed with Westrobae.



FIELD CURING

The plants are speared over a stake firmly fastened. The peanuts are in the center with the foliage outside protecting the peanut from injury by the sun.

Georgia Improved Peanut This variety is much superior to the ordinary Peanut, yielding fewer imperfect pods and combining earliness, productiveness and size; yields on ordinary land about 40 sacks to the acre. (lb. 40c) prepaid; (100 lbs. market price).



Growing Peanuts in a young Orange Orchard is to get your fertilizer for nothing. Harvest the peanuts and plough under the vines.

California Peanut Industry

BY ERNEST BRAUNTON

Read what is being done at Fontana and do likewise. We print the entire article because the culture is different from that practiced elsewhere; it is typical of California.



Threshing Peanuts the California Way

It has been clearly demonstrated that peanuts may be grown in favorable spots in all sections of the state and are a decided commercial success. That a paying crop cannot be grown on heavy soils is equally true, therefore this factor is of first importance. The soil most favorable is a rich sand or a sandy loam, not coarse dry sand, but a light porous sand or soil that is fairly retentive of moisture. If you market peanuts in the shell a clean sand will yield a clean light colored shell, but large growers thresh the nuts and market only the meats or kernels.

Soil should be plowed deeply and made as smooth as possible, for peanuts are planted on the level and ridges should be avoided. No fertilizer is used for there is no plant that gathers more nitrogen from the air than does the peanut, and no California soil so far tried appears to lack any fertilizer element needed by the peanut, even though continuously cropped for several years. The rows are planted 30 inches apart and the nuts four to eight inches in the row. Eight inches apart is an ideal distance if all would grow, but one cannot afford to have any 16 inches apart, so close planting is practiced. A remodeled Ventura bean planter, with new parts for the seeds, which are larger in peanuts than in beans, is used and is entirely satisfactory. This plants four rows at once, the nuts being in the shells and 60 to 70 pounds used per acre. The time for planting is from April 15 to May 15.

Culture and Care

A. B. Miller, Fontana, San Bernardino County, the heaviest grower of peanuts in the state, says that irrigation is the keynote to success. As he grew 2000 acres in 1919 and will plant 3000 acres this year, there is no doubt but he knows the pivotal point about which crop production swings. Mr. Miller furrows for irrigation just as do orchardists, and with similar cultivators. He irrigates three or four times during the season when the nuts are growing, once as soon as planted, again in 30 days, to be followed by one or two more applications 15 days apart, following the second, as season and soil demands. This matter must be closely looked into and as closely attended to. Failure of the proper amount of water at the right time is fatal to an early crop, though these wonderful vines will again respond, but produce a later crop. Of course cultivation and weed control present new problems in a really sandy soil, such as has proven best.

As the full crop of Spanish peanuts is produced within

COMPLIMENTARY

F. Y. McCANN, Napa County, Cal.

"I would like very much if you could, please, send me your latest catalog. I have handled your goods and in the southern part of the state; now I am going into the vegetable business here and would like to have your seeds and plants as I know that I would get better results from you than any other seedsmen that I know of. I will not take any other seeds until writing you as I have a good place with abundance of water and a good market.

I tried all spring and summer to grow cabbage plants but the cut worms would destroy nearly all of them. In desperation I mixed up the formula given in your catalog. That got them; I have no more trouble. Thanks for the advice.

HARRY WATTAN.

two inches of the surface, it is harvested with a bean cutter which reaps two rows at the same time, and by a set of small iron bars at the rear the plants are left in one row. The main harvest comes in September and is treated the same as the bean crop in Ventura County and other Southern sections. But if the crop is later and rains come, quick action is necessary, for both nuts and vines are more absorbent of water than any other crop known in the vegetable kingdom except sponges. Four days after a rain peanuts lying on the soil will rot. Should an emergency arise, the plants are strung on stakes for drying just as is done with the "goober peas" in the "Sunny South." Stakes eight feet long are driven about 18 inches into the soil, and six inches above the surface a piece of lath is nailed, and on these stakes the plants are strung for drying, the lath preventing the stack from coming in contact with the soil.

The Crop

Except the crop is sold in the shell, which may be stained by water, it is in no wise injured by rain if quickly dried. The peanuts are threshed on Mr. Miller's ranch by a remodeled bean thresher, which works perfectly. When well cared for the yield at Fontana is a ton to the acre. All the 1919 crop from this big ranch was absorbed by Los Angeles in the peanut butter and confection factories, and the outlook for 1920 points to the same local absorption, for the demand is for at least 15 carloads of shelled nuts annually. The growers last year were paid 18 cents a pound.

The only variety planted is the White Spanish, as it is superior to others in oil content and equally valuable for other uses. While the Virginia and Georgia varieties are larger in the individual nut, they do not rival the Spanish in any other respect. The nuts contain about 45 per cent of oil and 35 per cent of this is recoverable in the oil mills. No oil has been produced locally since this country entered the world war, as the nuts are more valuable for food purposes. Mr. Miller says that peanut straw is similar in food value to alfalfa and that for some livestock he prefers it. The crop of straw is about equal in weight to the crop of nuts. Few realize the extent of the peanut industry in the United States, but last year's crop was estimated at a value in excess of \$100,000,000. The value for crushing at the mills has in the past been about \$100 a ton, the price of course being largely controlled by the price of lard. The plants are splendid soil renovators and have few rivals as collectors of atmospheric nitrogen.

Formula for Cutworm and Grasshopper Poison for Five Acres

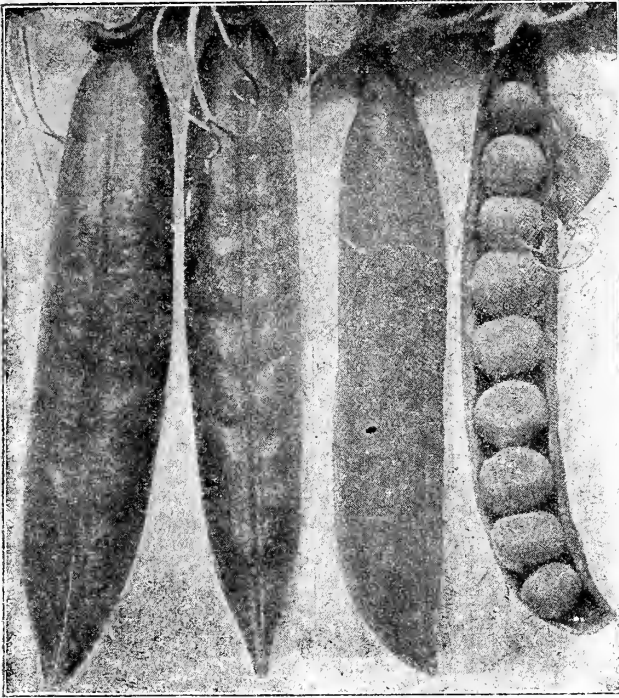
Paris green (or white arsenic).....	1 lb.
Molasses (cheap blackstrap preferably).....	2 qts.
Lemons (or oranges).....	½ doz.
Water	4 gals.
Bran (or alfalfa meal).....	25 lbs.

Grind lemons with meat grinder, mix all ingredients thoroughly. Spread thinly to avoid danger to livestock. Best spread in late afternoon.

A & M Garden Peas

Write for quantity prices on all varieties

Notice all prices quoted on this page are prepaid



Favorite Varieties for Local Markets

Senator This variety has become very popular with market gardeners and shippers, whether your acreage is small or large you need not hesitate to plant the Senator. The pods are of good size and the peas are crowded in the pod. It is similar to the well known Admiral.
(Pkt. 10c) (lb. 40c) (10 lbs. \$3.50) prepaid.

Admiral This excellent variety was introduced locally two years ago with only a limited quantity to offer. Every grower who was fortunate enough to get some was extremely pleased at his good fortune. Has dark green foliage, profusely branching vines bearing abundantly of large, well-filled pods of delicious sweet peas that mature in twelve weeks from planting. The picture is of pods grown on our trial grounds, and shows the shape and actual size of the pod. It has had two years' trial, and every gardener that once grows it wants it again. That is the best recommendation.

(Pkt. 10c) (lb. 40c) (10 lbs. \$3.50) prepaid.

Tall Telephone Vines vigorous, growing about 4 feet high, with large, coarse, light-colored leaves and producing an abundance of very large pods filled with immense peas which are tender, sweet and of excellent flavor. Throughout the south and by some growers in California it is preferred to all other varieties because of the hardness of the vines and its large, well-filled pods, making it one of the best varieties to grow during the winter months for shipping.

(Pkt. 10c) (lb. 40c) (10 lbs. \$3.50) prepaid.

Little Marvel It is indeed marvelous how prolific is this variety, two pods on every stem. The pods are three to four inches long, filled compactly. The peas are very sweet. Vines 18 inches. If you want an early prolific pea plant the marvel.

(Pkt. 10c) (lb. 40c) (10 lbs. \$3.50) prepaid.

Perfection The vine is of medium height and vigorous, pods large and well filled. Peas are very sweet. It is a good shipping variety.

(Pkt. 10c) (lb. 40c) (10 lbs. \$3.50) prepaid.

Laxtonian A long time English favorite. Any variety that can hold its popularity for so long a time must indeed be a good pea. For your home garden you can plant no better.

(Pkt. 10c) (lb. 40c) (10 lbs. \$3.50) prepaid.

Suttons Excelsior An early prolific medium dwarf pea of excellent quality. The name implies that it must have some special merit.

(Pkt. 10c) (lb. 40c) (10 lbs. \$3.50) prepaid.

Dwarf Telephone Medium tall; pods very large; medium green peas, very sweet; a favorite with shippers probably because it carries well and commands a high price because of quality.

For years this variety was grown more extensively for shipping than any other. Owing to crop failures in the seed growing section this variety was omitted from last year's catalog; but we again have ample supply.

(Pkt. 10c) (lb. 40c) (10 lbs. \$3.50) prepaid.

Stratagem A favorite in the San Francisco markets. The pods are of a dark green color and remain firm several days after picking. A very strong grower; very prolific, pods of good size and well filled. Vines stand upright about 2½ feet; an excellent variety.

Owing to the scarcity of the Dwarf Telephone for several years the Stratagem was established and it was then discovered to be a better shipper. Its dark green color made it a good seller in the Eastern markets.

(Pkt. 10c) (lb. 40c) (10 lbs. \$3.50) prepaid.

SHIPPERS, READ THIS

The California Vegetable Union shipped two cars of Stratagem Peas into New York City at a time when the market was glutted with southern peas. The Stratagems arrived in good condition and because of the dark green color sold readily at a price of two cents above that brought by the Southern peas.

Next year they will ship more Stratagems.

PAUL THOMASON, California

Your catalog interests me very much, and I think the state ought to pay for the printing of it as it is certainly a great benefit to the state.

Dwarf Telephone **Admiral**
ADVICE: For the home garden we recommend Nott's Excelsior, to be planted for very early peas, the Tall Telephones for later crop. Any other of the late varieties offered here are good.

Culture—Peas are very susceptible to soil and climate. Within the radius of a few miles from Los Angeles, and in one locality or another peas may be grown every month of the year.

In a thermal zone plant peas from September 1st to February 1st, and in lowlands from January 1st to September 1st. In summer months, from May to September, plant one inch deep in heavy soil and deeper in sandy soil. From December to April plant not more than one inch deep. The object of this is to have the seed enough to lie in the moist earth, and shallow enough to get warmth from the sun. Never irrigate after planting peas until they come up. Irrigate before planting, but do not plant until the soil is tillable.

Peas will rot in soil that is too wet, especially during the winter months. They will stand a great deal of frost and cold weather until they bloom, but after they bloom a heavy frost will destroy the pods, and if cool enough, will kill the vines. Many planters sow one hundred pounds of seed per acre, but fifty pounds of seed per acre drilled in rows and well cultivated will produce larger pods and more peas per acre; besides, there will be less mildew. Put the rows north and south for winter planting to give them as much sun as possible.

At the first appearance of mildew, spray with the best sulphur obtainable, and do the spraying in the morning. If your soil is sandy it would be well to inoculate the seed with Nitrogen Bacteria.

Gradius The largest of all extra early varieties; medium tall, quality superior to all other varieties.

(Pkt. 10c) (lb. 40c) (10 lbs. \$3.50) prepaid.

Dwarf Gray Sugar (Edible pods). Of ordinary yielding qualities, and unsurpassed as an edible-pod variety.

(Pkt. 10c) (lb. 40c) (10 lbs. \$3.50) prepaid.

American Wonder The earliest of all wrinkled peas. Of dwarf habit, growing from 9 to 11 inches high, and producing a profusion of good-sized and well-filled pods of the finest flavor.

(Pkt. 10c) (lb. 40c) (10 lbs. \$3.50) prepaid.

Premium Gem A dwarf variety very prolific and sweet.

(Pkt. 10c) (lb. 40c) (10 lbs. \$3.50) prepaid.

Nott's Excelsior Although a few days later than the American Wonder, the pods will average fully one-third larger, containing 6 to 8 large peas, so closely packed together that they become flattened.

(Pkt. 10c) (lb. 40c) (10 lbs. \$3.50) prepaid.

Yorkshire Hero A very popular market pea in this section. Abundant cropper and excellent in quality. Height 2½ feet.

(Pkt. 10c) (lb. 40c) (10 lbs. \$3.50) prepaid.

A & M Peppers

(See Cover.)

Culture.—For early green peppers, sow seed in hot beds in December and January. Transplant as soon as weather and soil in your locality will permit. For main crop sow seed in February, March and April, in hot bed. Pepper seeds needs the heat of a hot bed to germinate it during these months. For fall and winter crop sow seed in out-door beds well prepared, during May and June. Winter crops can be grown in places that are entirely frostless.

Many large growers are now planting seed in the fields and thinning out. This does away with the expensive and tedious method of raising plants and transplanting, and is proving satisfactory.

Peppers The growing, drying, canning and shipping of peppers is now one of California's big industries, according to Mr. Weaver of Johannes Bros. The average of 1919 was about 2500 to Mexican and 1000 to Anaheim Chilis. This means about \$750,000 to the growers and a like amount to the dryer and shipper.

Add to this about 2000 acres of Pimientos which brought to the grower \$500,000 and a like amount to the canner.

Also add 1000 acres planted to Chinese Giant sold only in the green state, brings to the grower from \$200 to \$500 per acre, according to the time of marketing. This adds \$500,000 to the total of about \$3,000,000 exclusive of a profit to the retailer.

Much of this was made possible by our breeding up and introducing the Anaheim Chili and the Pimiento. A few years ago, the acreage to Anaheim Chili was about 25 to 1 of Mexican Chili. Now it is about 3 to 1 in favor of the Mexican. This is brought about by the chaotic conditions in Mexico, cutting off the supply from there and Southern California climatic conditions being ideal for growing all kinds of peppers. Large dry houses were constructed and mills were erected for grinding the dried chili for domestic purposes and shipped in car lots to every distributing point in America.

Large canneries are canning the Chili and Pimiento exclusively and likewise supplying the world's markets.

This further emphasizes the statement that Wide - awake Seedsmen are valuable upbuilders in their respective communities.

Anaheim Chili Pepper

Anaheim Chili is desired above all others for culinary use because of its agreeable pungency. Other pungent varieties are intolerable, not so with the Anaheim Chili. That is what makes it the best seller on the market and the best pungent variety for canning.

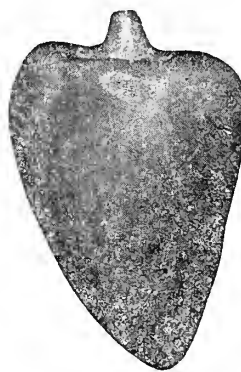
(Pkt. 10c) (oz. 50c) (¼ lb. \$1.65) (lb. \$5.00) postpaid.

It has been proved possible again and again in this vicinity to keep a family of five provided with fresh vegetables the year around on an ordinary city lot. It only requires real interest and reasonable attention.

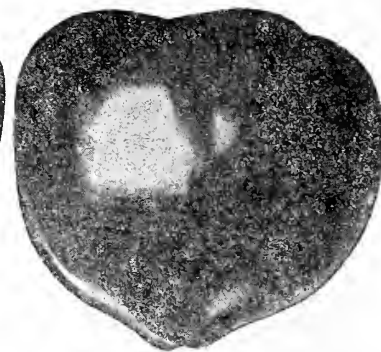
An amateur may at once become an expert with the aid of this catalog and A. & M. Seeds.

Anaheim
Chili
Actual
Size

PIMIENTO



The Pimiento as we imported it in 1906



The Pimiento as we improved it

It is Now a Big Money Maker

OUR SEED IS PURE. Owing to the large acreage planted to Chili, the Pimiento growers who planted seed of their own growing found their peppers badly hybridized with chili, resulting in a product that was ill-shaped and pungent, therefore could not be sold on the market nor to the canner. Our seed is pure and true to type, as one large grower testified by ordering his seed from us, discarding his own. He said: "I shall hereafter depend upon you for my seed, because it is the purest I have ever planted."

This pepper was introduced by us in 1911. It has already become one of California's many staples, far out-ranking the Anaheim Chili as a canned product. One cannery used the entire crop from 600 acres of Pimientos. This is because of its lack of pungency and its firm, thick fleshiness, which permits of its being scalded and peeled. It should be grown largely in the family garden, because it is delicious with salads or stuffed, and a healthy food to eat when ripe as you would eat an apple.

Every home garden should have a row of this Pimiento. For salad, parboil it to remove the skin. Stuffed and baked it is far superior to all other peppers. (Pkt. 10c) (oz. 60c) (¼ lb. \$2.00) (lb. \$6.00) postpaid.

Mexican Chili

The Mexican Chili has out-classed the Anaheim Chili by many hundreds of acres. We were taught that people living in hot climates were fond of hot peppers, but it seems that it was only a local habit and that climate had nothing to do with it. The North and East have acquired the habit and our shippers are having difficulty getting growers to keep pace with the market.

If you have rich sandy loam with irrigation available, there is big money in growing Mexican Chilis at present prices.

If you contemplate growing Chilis consult us about it.

The Mexican Chili is in a class by itself, on account of its extreme pungency. It is not canned, but is used almost exclusively for grinding and sold as cayenne, the trade of which is surprising. (Pkt. 10c) (oz. 50c) (¼ lb. \$1.65) (lb. \$5.00) postpaid.

Our seed is pure and taken from selected peppers grown far from other varieties.



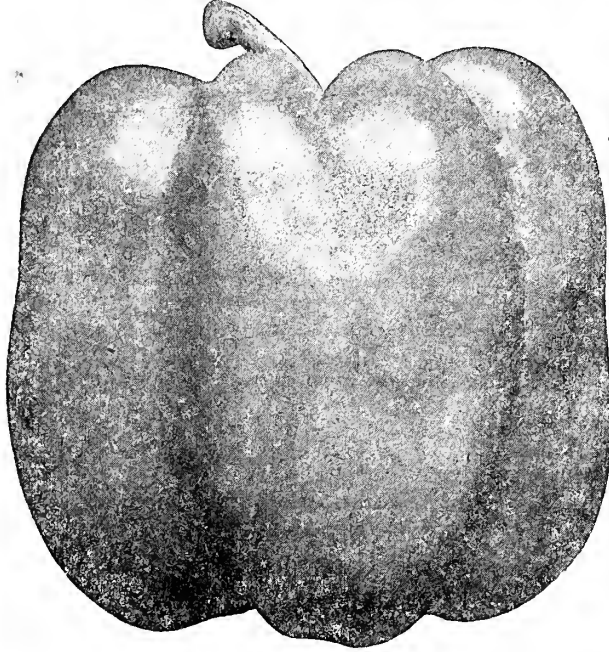
Mexican Chili
Big Money Maker

Floral Gem This beautiful yellow pepper became popular two years ago. It is ¼ inches in diameter, 1½ inches long, delightfully pungent with a flavor quite distinct from other peppers, and commands an independent price. The supply has not yet caught up with the ever-increasing demand. (Pkt. 10c) (oz. 80c) postpaid.

Small Chili This small pepper is ½ inch in diameter and two to three inches long. Is very pungent and marketed when quite green, although it is also sold when it has become red. It is an old time favorite and finds a market with canners and at stores catering to the foreign trade. (Pkt. 10c) (oz. 80c) postpaid.

PEPPERS—(Continued)

Chinese Giant A very large pepper of the Bull Nose type, often growing to five inches in diameter. This is the variety grown so extensively in frostless sections for the winter trade, when the grower gets as much as 20c per pound for the green pepper. One grower claims that his returns from five acres was \$4500. (Pkt. 10c) (oz. 80c) (¼ lb. \$2.65) (lb. \$8.00) postpaid.



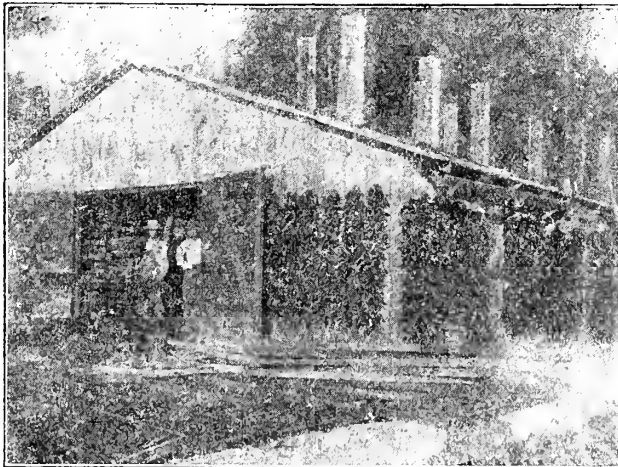
Chinese Giant Pepper

MARKET—For the market gardener the Chinese Giant is the big money-maker. There are instances,—in the foot-hill sections where they can be grown throughout the winter,—where the grower sold \$900.00 worth from one acre, but as a mid-summer crop it is profitable because of its enormous production.

A & M Perfect Ruby King Ordinarily they grow by 3 to 4 inches thick. Plant is of sturdy, bushy habit, and each one produces handsome fruit. This pepper is popular because of its solid, thick meat and mild flavor. (Pkt. 10c) (oz. 80c) (¼ lb. \$2.65) (lb. \$8.00) postpaid.

Bell or Bull Nose Do not confuse this with the Chinese Giant. It is similar in shape but scarcely more than half as large. It is much more prolific and a very desirable variety for the home garden. (Pkt. 10c) (oz. 80c) (¼ lb. \$2.65) (lb. \$8.00) postpaid.

Cherry A very pungent pepper, round as a cherry, about one inch in diameter, marketed when green. Used largely in pickling and by the foreign trade. There is a profit to the person who will specialize on this and other small pungent peppers. (Pkt. 10c) (oz. 80c) postpaid.



Up-to-date Chili dehydrating house

The Royal Pepper



The Royal Pepper

This is an improvement over the Ruby King and the Chinese Giant. While retaining the same delicious flavor of the sweet peppers it is thicker meated, so much so that it may be canned as is the Pimiento. It is particularly desirable for the table as stuffed pepper, because of the delicious flavor together with the thickness of rind and cup-like shape.

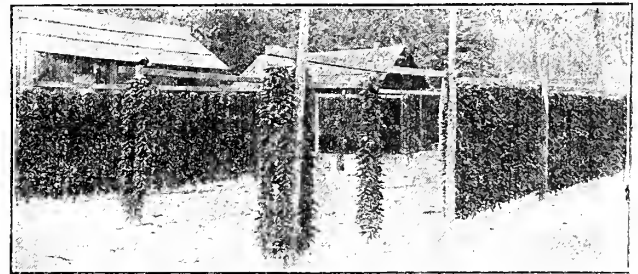
It is another of the new things that we tried out before recommending it to our trade.

Mr. Harry Bailey of Los Angeles, who is a professional pepper grower, reports to us that "It is a good pepper all right. I believe better than the Chinese Giant." Such a recommendation from such a source is worthy of consideration.

To gardeners we say do not hesitate because a crate of Royal Peppers will weigh as much as a crate and a half of Chinese Giant. (Pkt. 10c) (oz. 80c) (¼ lb. \$2.65) (lb. \$8.00) postpaid.

Cayenne A long, slim pepper, rather pointed, and when ripe a bright red color. Extremely pungent. (Pkt. 10c) (oz. 80c) (¼ lb. \$2.65) (lb. \$8.00) postpaid.

Tobasco The plants develop into large bushes, bearing profusely the little bright peppers in sprays. A mature pepper measures about one inch in length. These peppers are extremely pungent. (Pkt. 10c) (oz. 80c) postpaid.



The Old Slow Way of Sun Drying Chilis

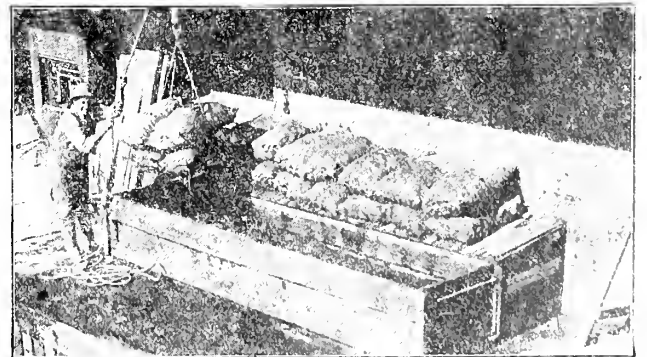
POTATO VAT

Treating Potatoes by Dipping Them in Corrosive Sublimite

Pursuant to our policy of doing everything possible to give our customers the best and cleanest seed possible we have installed a large vat in which all potato seed will be so treated, when requested, at a small additional charge, thereby insuring more and better Potatoes for Southern California.

Price for dipping seed is 35c per 100 lbs. up to one ton.

Price per ton is \$5.00.



A & M Potatoes

(See Cover.)

Write Department of Agriculture, Washington, D. C., for Bulletin No. 533, entitled "Seed Potatoes and How to Produce Them."

Essential Factors in Successful Potato Growing

The best results cannot be obtained without the best seed. Over thirty per cent increase has been obtained through the use of treated seed when grown by the side of what was thought to be extra seed stock but not treated.

Plow deeply, 9 to 12 inches. Cut potatoes to about two eyes.

Treat seed stock before cutting. The very best seed may have traces of one or more of the many diseases to which potatoes are subject. It is, therefore, advisable to soak seed potatoes in a solution which will kill whatever disease may be lurking on the outside of the tubers. Make this solution by dissolving **four ounces of corrosive sublimate** in about two quarts of hot water (be sure it is thoroughly dissolved) in a glass jar and then add to thirty gallons of cold water in wooden vessels. A barrel or wooden tank makes a good receptacle for this purpose. Place the sacks of potatoes in this solution and leave one and one-half hours, then drain and, if the potatoes are not to be cut immediately spread out to dry. Use the same solution for only four or five lots as the strength becomes weaker the more it is used. This solution is poisonous and should be handled with care and kept where animals may not drink it. Treated potatoes should also be kept away from stock.

Plant four to five inches deep, 14 inches between pieces, in rows 36 inches apart.

If potatoes follow alfalfa or Melilotus good yields can usually be obtained without the use of commercial fertilizer; but commercial fertilizer will be found profitable.

Keep soil moist at all times. Do not judge moisture by appearance of the potato plants as when the plants become a very dark green or begin to turn yellow it is then too late to apply water for best results; and potatoes are likely to become rough and knobby.

Turn earth up toward plants a little higher at each cultivation; until at last cultivation the ridges are six to ten inches high and broad at top so that tubers will be kept cool and free from tuber moth infection.

POTATO INSPECTION.—All potatoes intended for seed purposes must be inspected by the County Horticultural authorities before they may be received and again before they may be shipped out. This is a great protection to the grower.

MORE AND BETTER POTATOES

We realize that Southern California is not producing potatoes in quantity nor quality equal to other recognized potato growing sections, nor can the reason be assigned to any soil and climatic conditions prevailing here. But it has been clearly proven by demonstration that clean seed will produce **more and better Potatoes**. Therefore the above slogan has been set forth. On account of the almost universal presence in the soil of **Scab and Rhizoctonia** it is necessary to treat all seed with corrosive sublimate in order to destroy any germs of disease that may exist.

From the Los Angeles County Farm Bureau Monthly

"Experiences of the past season have done much good to call forcibly to the attention of potato growers of this county the necessity for better selection of seed. Good seed is half the crop with potatoes and growers are coming more and more to that realization.

Another lesson of the past season is the fact that local grown selected seed is frequently much to be preferred to the much vaunted improved article. The excellent results being secured by many of our best potato growers have certainly indicated that it is not only possible, but quite profitable to raise our own seed stock in Southern California."

FOUR THOUSAND SACKS OF PEDIGREED AND CERTIFIED WHITE ROSE

Reliability. Aggeler & Musser Seed Company may always be depended upon to overcome any crisis when good seed is essential to successful agriculture.

Five years ago when potato growers despaired of growing clean potatoes in Southern California, we contracted with an experienced grower located in the foothills of the San Bernardino Mountains—a locality long known as a favorable potato growing section—to grow certified seed. The first benefit from this was noted in our 1917 catalog which we quote:

"A field of 30 acres grown from A. & M. Certified White Rose yielded 200 sacks per acre."

Pedigreed Seed. Ever since 1917 our grower has been improving each crop by hill selection of clean typical seed and planting it in uninfected soil. After years of selection, we now offer this crop of clean pedigreed White Rose. This is undoubtedly the cleanest, most typical, seed in existence. In some sections this seed has such a favorable reputation that growers will plant no other. Many Chinamen have learned that it nearly doubles their crop. They say, "It pays to pay more for pedigreed seed."

CERTIFIED WHITE ROSE

We also purchased a large field of certified seed.

Therefore, with approximately 4000 sacks of pedigreed and certified seed we can truthfully claim that Aggeler & Musser Seed Company have saved the potato situation.

Mr. Potato Grower: This seed will nearly double your crop. Write for price.

Varieties we Offer

WHITE ROSE grown in Oregon.

BRITISH QUEEN from selected fields grown in Oregon.

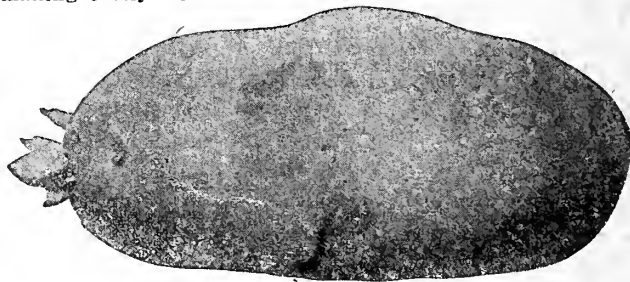
AMERICAN WONDER grown in Yolo Co. under contract from clean seed bred up by years of selection, and grown by an expert potato grower.

EARLY RED ROSE from Oregon.

BURBANK from Oregon.

WRITE US for detailed information concerning the above varieties. Always be sure to consult us concerning seed when you contemplate planting potatoes.

Our Mr. Aggeler is a thorough potato expert. It will cost you nothing to consult him and may save you from making costly mistakes.



A Typical White Rose

THE WHITE ROSE LEADS

After a competitive test covering a period of twenty years, the White Rose is today the popular money-maker. Twenty years ago the Red Rose and Burbank were the favorite local varieties. The White Rose soon eclipsed them. The Irish Cobbler, American Wonder, Triumph, and lately the British Queen, loomed large, but after a test of four years the British Queen proves inferior as a money-maker. This spring will see more acreage planted to White Rose than ever before.

The White Rose Leads Because It Matures In from Eight to Ten Weeks, Large and Smooth, Satisfactory Yield and Good for the Table. It is a Good Dependable Money-maker. See Potato Fertilizer, page 59.

When you buy seed potatoes from us, you get the variety you ask for. Many dealers in seed potatoes do not know one variety from another.

White Rose is the Big Money Maker

Mr. Haymaker of Van Nuys said he planted White Rose and Harvest King. He sold the former at a good price because it was early. The latter made a big crop, but on account of its lateness he just about lost the whole of it because of Potato Moth. He favors the White Rose because he gets the use of his land in time for a crop of melons.

A & M Sweet Potatoes

Sweet Potatoes for Seed

The handling of Sweet Potatoes for seed has been unsatisfactory to our customers as well as to ourselves on account of the perishable nature of sweet potatoes. However, if you wish us to secure sweet potatoes for seed purposes we will do so and send them to you at your risk. Check or cash must accompany order.

Sweet Potato Plants

We will aim to have in large quantity sufficient plants to meet all demands, but our beds do not always respond to the usual culture, the seasons are not always favorable. Our grower promises we can accept orders for March 1st delivery.

PLANTS BY THE MILLION

The demand for plants last season was far beyond all calculation and found us unprepared. Another embarrassing feature was the earliness of the demand and the unusual lateness of our beds. We will endeavor to overcome all these handicaps this coming season.

PRICE OF PLANTS POSTPAID

	Per 100	Per 1000
Yellow Jersey	\$1.25	\$6.00
Large White	1.50	8.00
Nancy Hall	1.50	6.00
Porto Rico	1.50	8.00
Red Jersey	1.50	8.00
Georgia Yam	1.50	8.00

Write for Quantity Price

The Nancy Hall has now established itself in the sweet potato market. It is early and better than the yellow Jersey, therefore it is an early money maker. On the other hand it will not keep as well as the yellow Jersey, therefore the latter is the late money maker.

The conclusion is plain that professionals must have both varieties to get the best returns from sweet potato growing.



A field of Nancy Halls. Irrigated and cultivated the last time. The vines are short, but the picture shows them trained out of the furrow.

Dig When Mature

The grower can judge when his sweet potatoes are ripe by breaking or cutting one of them and exposing it to the air for a few minutes. The cut or broken surface dries if it is mature, but the surface remains moist if it is not ready to be dug. However, in regions where early frosts occur the potatoes should be dug about the time the first hard frost is expected, regardless of their stage of maturity. It is especially important that they do not remain in the ground during heavy rainstorms after they are fully mature.

Can Be Successfully Stored

And sweet potatoes can be successfully stored. Exhaustive investigations have recently shown that the factors necessary to insure successful storage, in the order of their importance, are: (1) They must be well matured before digging; (2) the most careful handling must be given them; (3) they should be well dried or cured in storage, and (4) the temperature should be as uniform as possible after they are cured.

How to Grow Plants

Select a location protected from cold winds, preferably the sunny side of a board fence. The drainage should be away from the bed. Make an excavation five or six inches deep and five to six feet wide, and as long as needed for the quantity of sweet potatoes to be bedded. About one lug box of small sweet potatoes of good form are required to propagate a thousand plants.

Scatter four inches of sand in the excavation and level the sand carefully. Place the sweet potatoes by hand as near together as possible without touching on this sand bed.

After they are bedded, cover the "seed" with sand or light loam to the depth of one inch. Water thoroughly by sprinkling every two or three days in the early morning until the plants begin to show through the inch of sand. Then add an inch more sand in order to develop a good root system.

When the plants begin to form leaves, they should be watered each day, unless the grower finds that the top soil is moist for a longer period.

PERINE'S SWEET POTATO DIGGER

This Digger fills every reasonable dem and expected of a Sweet Potato Digger in any soil fit to raise Sweet Potatoes. Is also used extensively in the south to dig Carrots, Beets, Parsnips and Celery.

It is made of heavy steel throughout and requires two horses to draw it. Has two 16-inch rolling cutters attached to the beams on either side of the Digger which effectually cut the vines even when wilted and made tough by frost. The two upright blades which follow directly behind the rolling cutters are sharpened to a knife edge, which also helps in the work done by the cutters. The Digger runs directly in the center of the row, is 20 inches wide and can be run at a sufficient depth not to cut any of the potatoes. A knife five inches wide, made slightly oval is attached to the bottom of the Digger and raises with a gradual slope to the rear; this lifts the Potatoes and thoroughly loosens the soil, so that the Sweet Potatoes are left protruding out of the ground and all still fast to the vines. This eliminates the old trouble of covering up and losing a percent of the crop.

With this Digger it is possible to secure every Potato without being bruised.

The Digger will pay for itself the first year in digging five acres, as it saves much time and labor and enables the grower to secure his entire crop. The price of the Digger is so reasonable that even a small grower can afford to have one, and it is indispensable to the large grower.

One market gardener writes: "I can certainly recommend the Digger very highly as being the identical thing. Wouldn't be without it. Use it not only for Sweet Potatoes but for Carrots, Parsnips, Beets, and especially Celery."

Mr. Geo. M. Reed, of Riverside, says, he could not afford to be without it. It does the work better than the fork or plow.

All orders should be placed at an early date to insure delivery. Price of Perine's Sweet Potato Digger, complete, \$60.00 f. o. b. Los Angeles. Write for further information. Gentlemen:

Have used the Perine's Sweet Potato Digger this season and find it to be a most wonderful machine; has decreased my cost of digging 75 per cent. Get all my potatoes in excellent condition.

Would be glad to have you refer anyone to me.

Yours truly,

J. E. SWIFT, Van Nuys, Calif



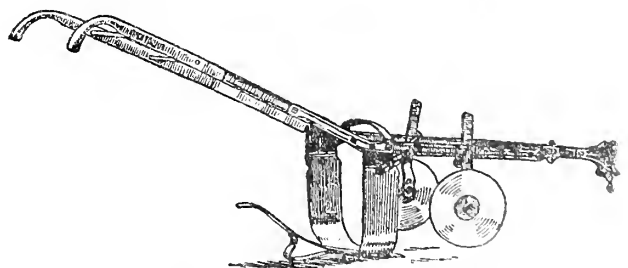
Nancy Hall

my cost of digging excellent condition.

Would be glad to have you refer anyone to me.

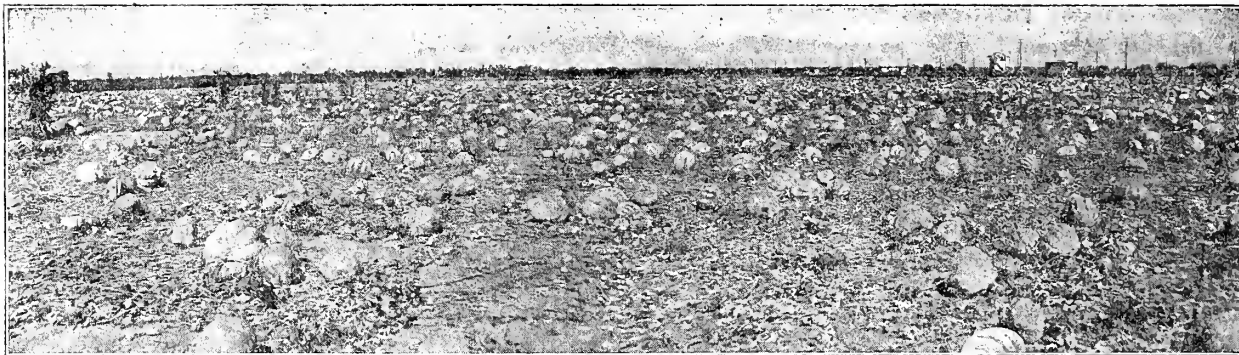
Yours truly,

J. E. SWIFT, Van Nuys, Calif



Perine's Sweet Potato Digger

A & M Pumpkin



A Field of Cheese Pumpkins Grown for the Cannery

Large Cheese or Kentucky Field

For stock only, California Mammoth, Estampes, Cushaw, Kentucky Field or Cheese, Sandwich Island, Pot Iron and Connecticut Field.

For the canneries, plant Estampes, Kentucky Field or Cheese.

For the home, plant Boston Pie.

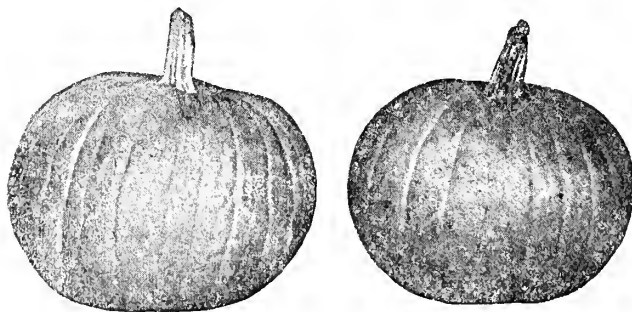
Culture—Pumpkins delight in red, sandy soil that is perpetually moist—the soil that retains moisture by the dry farming method, because pumpkins do not want too much water, and to flood them would destroy them, so when irrigating make the furrows nearly as far from the hill as the tip of the vine, and when the vines intersect, run the water through the middle of the row. Plant the seeds every 8 or 10 feet, allowing only one plant to remain.

See page 31—Deep Planting.

Estampes

We have the purest stock seed from which to grow this pumpkin. It is the heaviest pumpkin for its size that we know of; 100 pounds is not an unusual size for them to attain. It is the canner's favorite because of its thick, deep red flesh and the fine sweet flavor. It is without exception the best for dairy stock, and only the scarcity of seed has prevented it from being more widely known. (Pkt. 10c) (¼ lb. 50c) (lb. \$1.50) postpaid.

An Estampes Pumpkin, weighing 131 lbs., was grown on the ranch of Mr. Hathaway. His boys are active intelligent farmers and dairymen, and give us the information that when they feed other pumpkins the cows eat them because they have to, and the milk contains only 3 per cent butter-fat, but when they feed the Estampes, the cows are just crazy to get at them, and the milk contains 5 per cent butter-fat. "Just to try it out, we again fed other pumpkins and the butter-fat fell to 3 per cent."



Sugar, or Boston Pie

Sugar or Boston Pie

A small handsome variety, and very popular. The skin is a deep orange yellow; flesh fine grained and sweet in taste. Famous in Boston as a pie pumpkin. It sells better on our local market than any other variety except the Jack-o'-Lantern at Hallowe'en time. (Pkt. 10c) (¼ lb. 50c) (lb. \$1.50) postpaid.

Cushaw or Crookneck

This excellent pumpkin ought to be planted more largely. It is the heaviest pumpkin for its size because of the small seed cavity. It is excellent for pies, and yields enormously. (Pkt. 10c) (¼ lb. 50c) (lb. \$1.50) postpaid.

Sandwich Island

The most popular pumpkin in Ventura County. It is as hardy as a citron. A good one to plant where water is scarce. (Pkt. 10c) (¼ lb. 35c) (lb. \$1.00) postpaid.

Kentucky Field or Large Cheese

This variety is locally called Sweet Pumpkin, and is grown more than any other of its kind for stock, because it is a good keeper, notwithstanding it has a soft shell. It is fleshy and very sweet; also good for pie, and is largely used for canning. On one large ranch in the San Fernando Valley there was planted a large acreage to nearly all the popular varieties; this one was unaffected by the hot sun, and remained in perfect condition while other varieties were sun-burned and decayed quickly. (Pkt. 10c) (¼ lb. 35c) (lb. \$1.00) postpaid.

Japanese Pie Pumpkin

(Pkt. 10c) (oz. 20c) (¼ lb. 35c) (lb. \$1.00) postpaid.

California Mammoth

This is the large pumpkin so well known locally. As many as 20 tons have been taken from one acre. It not infrequently attains a weight of 200 pounds. (Pkt. 10c) (¼ lb. 45c) (lb. \$1.25) postpaid.



Connecticut Field (Jack-o'-Lantern)

Connecticut Field

(The Jack-o'-Lantern)—This is the pumpkin planted largely for the Hallowe'en and Thanksgiving trade, at which time they bring \$20.00 per ton, and two cents per pound at retail store. Twenty tons to the acre is no unusual yield. If the land has been manured liberally a full crop can be grown among corn. It is a most excellent keeper, and will be sure wealth to all who grow and feed it liberally. (Pkt. 10c) (¼ lb. 35c) (lb. \$1.00) postpaid.

MONEY IN GROWING SQUASH AND PUMPKINS.—The canners consume enormous quantities. They use principally the Estampes and Large Cheese pumpkins, paying about \$6.00 per ton. Next to the canners are the bakers, who use Hubbard Squash and Small Sugar, paying about \$20.00 to \$30.00 per ton.

PLANT PUMPKINS AND CITRON FOR THE DAIRYMEN

If you have an idle space of rich sandy loam plant pumpkins any time from May 1st to August 15th.

If you have any soil too sandy to grow the usual crops, plant the large green striped citron, you will be sure of a big crop.

"Many thanks for your catalog; it is the best I have ever seen. Please, send a copy to my friends in St. Petersburg, Fla. D. Beauchamp, Florida."

"Received your catalog, which is very interesting to read, as it contains so much valuable information. Mrs. E. Meves, Santa Cruz County, Cal."

A & M Radish

Culture—Seed may be sown the year 'round in California. Radishes thrive best in light, sandy loam, made rich with manure. Sow in drills, 10 inches apart. An ounce of seed will sow a hundred feet of row, 10 pounds to the acre.

Early Scarlet Turnip

One of the earliest and best sorts for forcing; its color is very handsome; flavor very mild, crisp and juicy; stands a great amount of heat without becoming pithy. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) postpaid.

French Breakfast

A splendid variety, medium-sized, olive-shaped, very crisp and tender; of a beautiful scarlet color. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) postpaid.

Epicure Radish

Ready for the table within three weeks; always crisp, a delightful relish. The small round red and white radishes make a pretty showing. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$2.00) postpaid.

Chartiers A distinct, exceedingly handsome and attractive sort; color of top scarlet rose, shading into pure waxy white at the tip. Attains a large size before it becomes unfit for the table. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) postpaid.

Early Long Scarlet

Very brittle and crisp; color a bright scarlet; small top. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) postpaid.

Round Black Spanish

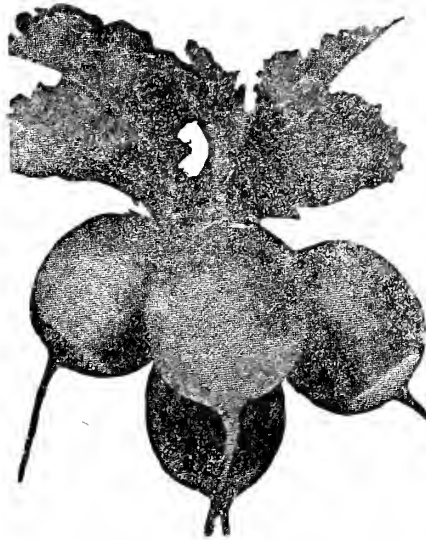
A delicious, crisp, winter radish. It sells well at the market. (Pkt. 10c) (oz. 20c) (¼ lb. 30c) (lb. 75c) postpaid.

Large White Chinese

This is a winter radish of deliciously sweet flavor; can be eaten as a turnip as it is without stringency. The Chinamen use this variety exclusively. (Pkt. 10c) (oz. 20c) (¼ lb. 60c) (lb. \$1.75) postpaid.



China Rose



Scarlet Turnip White Tip Radish

White Tipped Scarlet Turnip

An early variety of medium size and excellent flavor, and of a very handsome appearance. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) postpaid.

Long White Icicle

For the home garden we consider this a most excellent table variety. Its extreme earliness, beautiful pure white appearance, excellent flavor and crispness should make it a favorite everywhere. (Pkt. 10c) (oz. 20c) (¼ lb. 60c) (lb. \$1.75) postpaid.

Crimson Giant A variety extraordinary in that, while growing to an unusually large size, it is always tender, crisp and of mild flavor. It remains in perfect condition a remarkably long time, and unlike other forcing varieties, does not become pithy even when twice their size in diameter; root turnip shaped; color a beautiful crimson carmine; flesh firm, crisp and tender. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) postpaid.

All Season Radish A new one from Japan called "Tokishiraza," meaning all-the-year. It is a very large, long, snow-white radish; deeply rooted, does not extend above the soil, hence it always is tender and crisp and has a delicious flavor. (Pkt. 10c) (oz. 20c) (¼ lb. 65c) (lb. \$2.00) postpaid.

Japanese Summer Radish

This radish was introduced here by the Japanese several years ago. Its beautiful white color and mammoth size attracts great attention. It is very tender and the flavor is exceedingly mild. It attains perfection in California, growing twenty-six inches in length and three inches in diameter. It is a profitable radish to grow, as it sells readily and is relished by all. (Pkt. 10c) (oz. 20c) (¼ lb. 85c) (lb. \$2.50) postpaid.

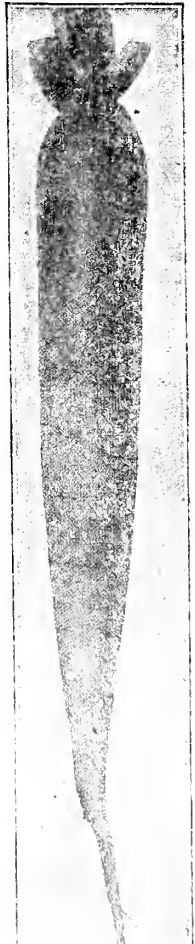
California Mammoth

Pure white; the flesh is tender, sweet and crisp, keeps well. Plant from September 1st to March. (Pkt. 10c) (oz. 20c) (¼ lb. 60c) (lb. \$1.75) postpaid.

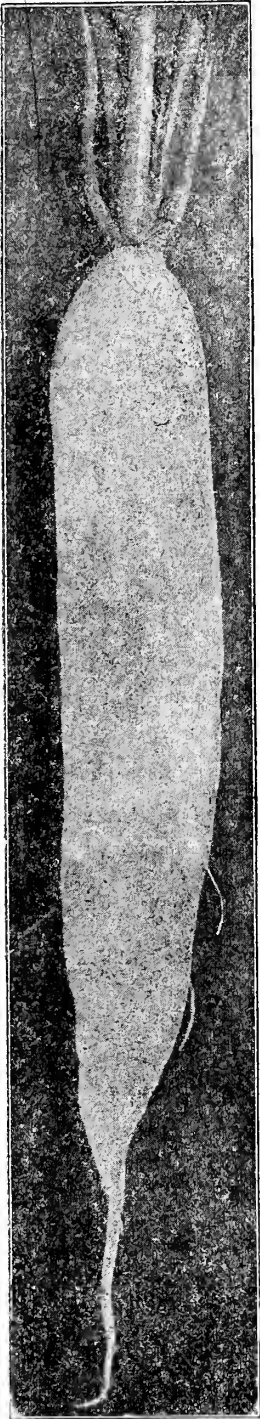
China Rose A delicious radish, with little tendency to become pithy. Skin is a beautiful deep scarlet and flesh pure white. It is a good seller and is in great demand by the vegetable peddlers. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) postpaid.



All Season



Chartier



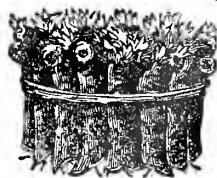
Long White Icicle

Stump Rooted Half Long Scarlet

This variety should be more popular because it is just the right size for table use, not too large, never pithy, but always crisp and sweet. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) postpaid.

A & M HORSERADISH

GROW MORE HORSERADISH
Big Money Maker



Horseradish does best on a deep, loamy soil, although it can be grown with greater or less success on almost any type of soil. It should be planted as early in spring as the ground can be worked. A good coat of manure should be plowed under, with an application of 400 or 500 pounds per acre of a good grade of acid phosphate. If no manure is available, a fertilizer will give good results.

When the soil has been placed in proper condition for planting, it should be marked off in rows thirty inches apart and the Horseradish sets planted in the furrows three to five inches deep and about eighteen inches apart. The cuttings should be the size of a lead pencil or larger. The sets are usually placed in an inclined position, at an angle of about thirty degrees to the perpendicular. Cultivation should be begun as soon as growth starts and should be continued once a week until the plants are so large it is impossible to get through them.

The yield depends on the late fall rains, as the roots do most of their growing late in the season. Average yields are from one to three tons to the acre.

The large Bohemian variety is better than our native kind, as it grows so much larger and yields more than twice the number of pounds per acre. It does best in this section in a low, rich, sandy soil.

The Bohemian Variety is decidedly a more rapid grower than the common. We buy our roots from the far East to avoid the disease so prevalent here. (12 roots 25c) (100 roots \$1.00) postpaid; (1000 roots \$8.00) f. o. b. here.

A. Curtis writes: "I found the horseradish disease comes from planting old crowns. In my field all crowns that were here. (12 roots 25c) (100 roots \$1.50) postpaid; (1000 roots \$10.00) f. o. b. here.

A & M RHUBARB

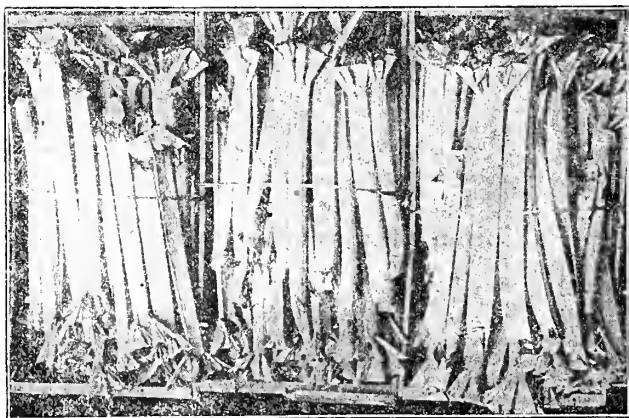
Culture—Sow the seed any time from February 1st until July 1st, in drills two feet apart, in order that you may cultivate with a horse cultivator. Within five months after sowing the seed, the Wagner's Giant variety will be large enough to market, even though the roots are not larger than your thumb. Transplant at any time when the roots are as large as a pencil. Rhubarb requires a rich sandy loam, well drained. Never flood the crown nor bury it with soil. Therefore plant it on ridges or on the sides of an irrigating ditch. In our hot climate partial shading is beneficial. If you can do so, plant it in an orchard, setting the roots three feet apart, but if in a sunny place, set the roots 18 inches apart, that the leaves of one plant will shade the crown of another.

Wagner's Giant Is undoubtedly the most profitable variety we have yet offered. It is displayed at the market places in apple boxes, and the boxes are barely long enough to accommodate the large, thick stems that will average one-half pound each, often weighing more than a pound. It is remarkably early, bearing large stems within five months from planting the seed, and grows nearly the entire year. The stems are so tender that they do not need peeling. It is not as red as the Winter Crimson, but of good color. (Pkt. 10c) (oz. \$1.00) (¼ lb. \$4.00) (lb. \$12.00) postpaid.

Strawberry This is an old favorite and much in demand particularly with northern shippers. Its beautiful color makes it a ready seller at the stores. (Pkt. 15c) (oz. \$1.00) (¼ lb. \$4.00) (lb. \$12.00) postpaid.

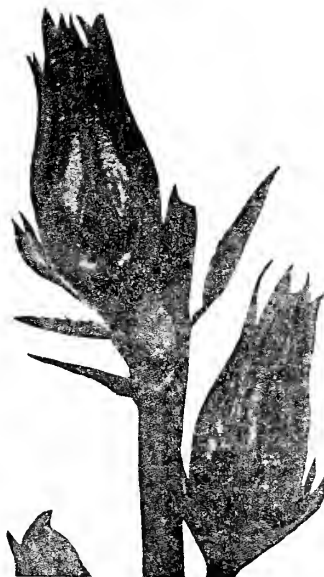
RHUBARB ROOTS

Wagner's Giant Seedling—(15c each) (\$1.50 per dozen)
\$10.00 per 100.



Wagner's Giant Rhubarb in apple boxes, 18 inches long

A & M ROSELLE



Roselle Pods
From Which Jelly is Made

Culture — Sow seed early in April in the field, four feet apart, in rows six feet apart. Cultivate as Okra. There is an early and a late Roselle. Be sure to get the early variety because the frost is almost sure to destroy the late variety before it matures. We offer only the early variety.

It is an annual plant that has been sufficiently tested to indicate its great value and to warrant more extended cultivation. The calyx surrounding the seed pod is used as soon as the flower drops for making jelly and jam. The jelly is superior to guava or currant, and is labeled as "Queensland Jelly." is shipped from Australia to all parts of Europe. It is easily grown from seed if planted after the ground is warm; grows rapidly, resists drouth and is very ornamental. Every home garden should have a row of this ornamental and useful plant. (Pkt. 10c) (oz. 75c) (¼ lb. \$2.50) (lb. \$7.50) postpaid.

NOTE—our local growers are not up with other localities in advertising and educating the public to the uses of roselle. The local

demand has never yet been fully supplied, and only a few people ever heard of it. Someone ought to get busy.

We have been advised by a lady from Texas, also one from Cuba, to remove the seed pod, and the jelly is thus greatly improved. The calyx is an excellent substitute for cranberry sauce or pie.

Having received numerous inquiries how to use Roselle, we have decided to insert the answer here. Pick the pods that grow at the axil of each leaf. Boil them until soft and strain through a cloth. Add ½ pint of sugar and the juice of ¼ of a lemon to each pint of juice, and boil again until it jells.

The pods are ready for use in September. We are advised that excellent jelly may be made from the leaves. Therefore it will not be necessary to wait for the pods to mature.

Put Roselle Pods in water to cover; let stand over night. In the morning strain, boil to one-half and put in cans; use when needed as lemon juice.

I got some Roselle Seed from you last year and I am very proud to sell you I think every seed grew and I had pretty plants about eight feet high and loaded with seed pods and I made a few jars of jelly but couldn't get the sugar to buy here or else I would have had more jelly off one dozen plants than the family could use in a year. It's a wonderful plant I had never heard of it before but I will never be without it now.

Thanking you very much for your catalog and the information you give in it. Yours truly,

ALEX. STRACHAN, Atlanta, Ga.

A & M SALSIFY

Culture—Sow the seed in the spring in drills one foot apart and one inch deep, thinning out plants to four inches. It succeeds best in light, well-enriched soil. One ounce of seed for 50 feet of drill.

Mammoth Sandwich Island A large and superior variety. Mild and delicately flavored. (Pkt. 10c) (oz. 30c) (¼ lb. 90c) (lb. \$2.75) postpaid.

A & M SORREL

Broad Leaved This is boiled and served like spinach, also delicious soup is made with it, and it possesses a very fine flavor. As the hot sun tends to increase its acidity, a northern exposure is advisable. It should be sown in drills 18 inches apart. It is hardy but the roots should be divided every four years. (Pkt. 10c) (oz. 25c) (¼ lb. 75c) (lb. \$2.25) postpaid.

A & M Spinach

Spinach cultivation will be carried on much more extensively in California in the future, according to a bulletin just issued by Stanley S. Rogers of the University of California. This will be due to the great demand for this crop for canning purposes, and for shipping green.

"Spinach is well adapted to a large area in California," Professor Rogers continues, "and may be grown wherever the conditions are favorable for the production of vegetables. Under normal conditions when growing spinach in large tracts, the cost varies from \$25 to \$35 per acre, exclusive of land values or fertilizers. The yield per acre varies from three to five tons, with an average production of four tons. (As much as 8 tons have been grown.) When selling to the cannery the customary price is \$25 per ton."

"Spinach is best adapted to a rich, light loam and is not a satisfactory crop to grow on soils of poor quality or those which will not retain moisture. The climate requirements of this crop are very exacting. The plants will stand without injury a relatively low degree of temperature but are seriously injured by heat. Planting early in the fall and late in the spring should be avoided since the plants will not make a satisfactory growth during hot weather. When planting during the rainy season, provided the soil is of a sandy nature and is free from weeds so that it will not pack wet, this crop may require no cultivation. The crop is ready to harvest in six weeks to three months after planting."

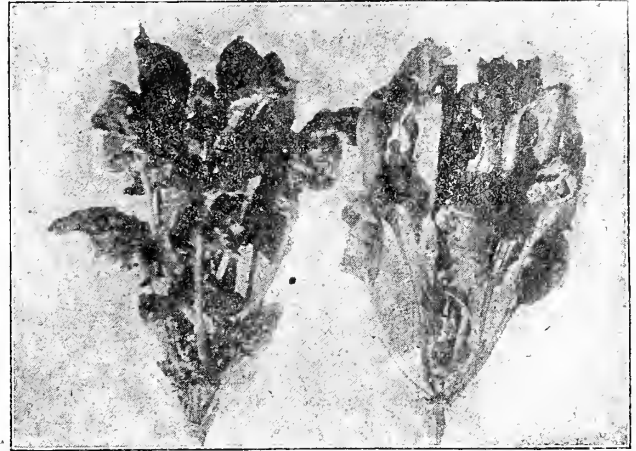
Professor Rogers' article, entitled "Spinach Growing in California," may be obtained by writing to the University of California College of Agriculture, Berkeley.

J. M. Rusk reports that seven acres planted to spinach for canning brought \$746.64. The crop was all harvested within three months from time of planting.

MARKET.—On the local market there is a uniform demand throughout the year for home consumption, but during the winter months the shipper requires enormous quantities. The canners contract for large acreages each year.

Garden Culture.—Sow in drills, one foot apart, and for succession, every two weeks; as it grows, thin out for use, keeping clean of weeds. It grows the year round in California. One ounce of seed for 100 feet of drill; 12 pounds to an acre.

Mountain Spinach Is quite distinct from the common varieties, but more productive. May be cut several times which makes it branch all the more. After several cuttings it will produce enormously of seed. The quality is excellent. Try it. Seed is limited, we offer it in packets only. One packet is sufficient for a family garden. (Pkt. 10c).



Bloomsdale—Flanders

Broad-Leaved Flanders is one of the best varieties for all purposes and excels others for summer planting. (Pkt. 10c) (oz. 80c) (¼ lb. 35c) (lb. 90c) postpaid.

Bloomsdale Large green thick savory crumpled leaves, grows luxuriantly, producing twelve to fifteen tons per acre. (Pkt. 10c) (oz. 20c) (¼ lb. 30c) (lb. 75c) postpaid.

Bloomsdale Spinach is the standard variety throughout the East and South. It has gained popularity here since the canner and shipper have come into the local market.

Mr. Gammon who grew it in the San Fernando Valley reports our seed "is strictly first-class, if any one doubts it send them to me."

A & M Summer Success For several years we have endeavored to secure a type of Spinach that would prove profitable to grow in summer time, and after several trials this one proved the greatest success. With moist, loamy or peat land the A. & M. Summer Success will grow leaves 14 inches long. The leaves are very mealy and crisp. (Pkt. 10c) (oz. 20c) (¼ lb. 35c) (lb. 90c) postpaid.

Victoria An excellent round seeded variety. A great favorite throughout the East. It is similar in growth to the Viroflay. (Pkt. 10c) (oz. 20c) (¼ lb. 35c) (lb. 90c) postpaid.

Viroflay During the seasons of 1917 and 1918 this variety became popular as an all-round spinach. It is desired by the grower because it is hardier than other varieties and will produce in tonnage per acre more than any of them.

The canner and shipper like it because of its large smooth leaves.

The consumer prefers it because it is exceedingly tender and of mild flavor. (Pkt. 10c) (oz. 20c) (¼ lb. 35c) (lb. 90c).

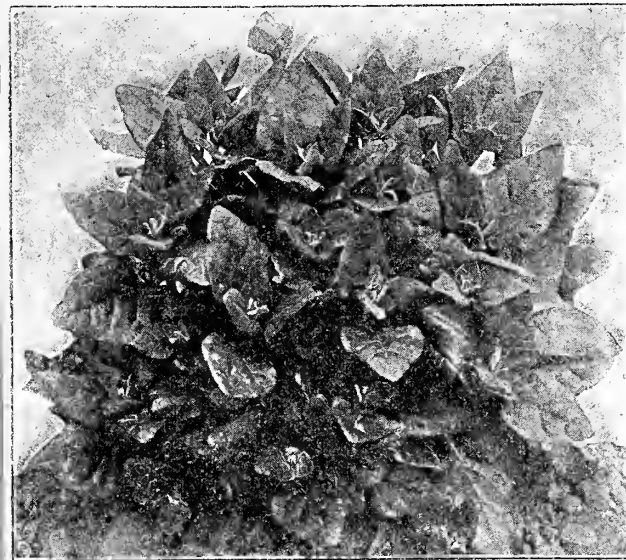
A & M Improved Thick-Leaf Winter

This new variety is one of our valuable introductions and has proven its superiority over all other varieties for beautiful large thick-leaved bunches that bring double the returns to the grower; sells more readily to the peddler and pleases the housewife. For canners no other variety is equal to it (Pkt. 10c) (oz. 20c) (¼ lb. 35c) (lb. 90c) postpaid.

Long Standing This is a good sort for market gardeners because it is slow to shoot to seed, and the quality is equal to the best winter variety. (Pkt. 10c) (oz. 20c) (¼ lb. 35c) (lb. 90c) postpaid.

Prickley Seeded, or Winter Spinach

This variety thrives best in the coldest weather, and is the money-maker for the market gardener. Our seed is now American grown, and for several years has given entire satisfaction. The leaves are large, fleshy and very tender. (Pkt. 10c) (oz. 20c) (¼ lb. 35c) (lb. 90c) postpaid.



New Zealand

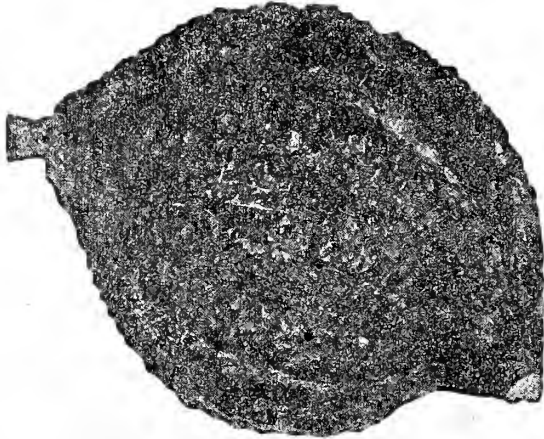
New Zealand A spreading vine with numerous branches. One plant will cover an area four feet in diameter. The tender tips may be cut every few days and cooked as spinach; it is just as good. One pkt. is enough for a family garden. (Pkt. 10c) (oz. 25c) (¼ lb. 75c) (lb. \$2.25) postpaid.

The precocity of the New Zealand spinach plant in favorable soil has been noted by many persons who have planted it, and a great number having garden space will plant this vegetable in their spring gardens. It may be planted at any time of the year, practically, in Southern California, but responds best to the influence of the March and April sun. Sow in hills or drills a foot apart, and for succession, once every two weeks. Then thin out as the plants crowd each other, and cut the tender tips as needed.

Frequently this plant spreads five or six feet in each direction, and often survives the mild winters in some parts of the Southwest. The flavor of this spinach is good, and the coarser parts of the plant may be fed to chickens, which are very partial to it.

A & M Squash

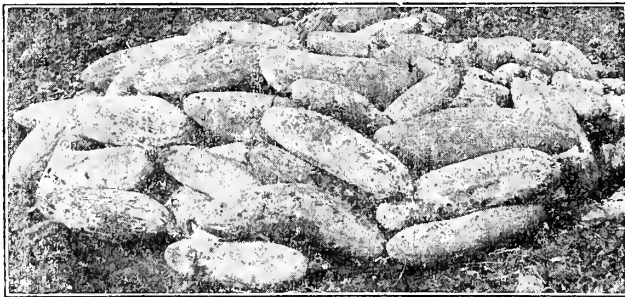
Culture.—Seed should not be planted until all danger of frost is past. In open ground plant in hills ten feet apart where irrigated, and fifteen feet apart where not irrigated. In orchard, plant only one row between trees. When the vine is well along, do not flood the hill, but keep the irrigation furrow nearly as far from the hill as the length of the vine. Keep in mind that the roots are longer than the vines.



Green Warty Hubbard

Green Warty Hubbard This variety is grown more largely probably throughout the United States than any other. It is used in many ways, but mostly for pies. It is a good keeper and because of its hard, warty rind, it is the best of shippers. Therefore many acres are grown in Southern California for that purpose, and many more for the Bakers, the Canners, and family consumption. When in doubt what to plant for a fall crop, plant Hubbard Squash if your soil is suitable. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) postpaid.

Fordhook Squash This is a most desirable squash for either summer or winter use. The vines are of strong, vigorous growth and wonderfully productive. Squash oblong in form, eight or ten inches in length, slightly ridged; smooth, thin, yellowish skin; flesh very thick and of a light yellow color. If gathered young for cooking, no other squash approaches it in flavor, while if allowed to ripen on the vine they can be stored and will keep in excellent condition until late the following June. Either for baking like sweet potatoes or making pies during the winter, the squash is very fine. (Pkt. 10c) (oz. 20c) (¼ lb. 60c) (lb. \$1.75) postpaid.



Banana

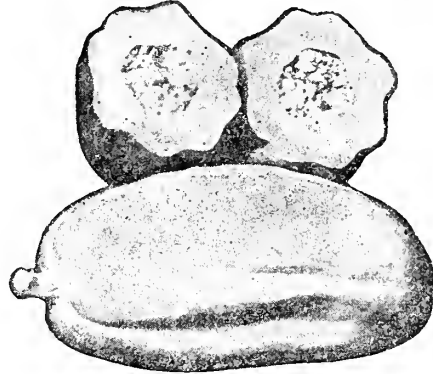
Banana The squash grows from one to two feet in length. The skin varies from a bright yellow to a dark olive green. Flesh firm and solid, of beautiful orange-yellow and excellent quality. It keeps from one season until another. When quite young it is excellent to cook as a marrow. (Pkt. 10c) (oz. 20c) (¼ lb. 65c) (lb. \$2.00) postpaid.

Boston Marrow Flesh, bright orange or rich salmon color; for sweetness and excellence is unsurpassed. (Pkt. 10c) (oz. 20c) (¼ lb. 45c) (lb. \$1.25) postpaid.

Golden Hubbard The flesh is of a deep golden yellow—a much richer color than the Hubbard—fine grained, cooks very dry, and has excellent flavor. In its keeping qualities it is fully equal to the green variety. (Pkt. 10c) (oz. 20c) (¼ lb. 65c) (lb. \$2.00) postpaid.

Pike's Peak or Sibley An excellent winter squash. Fine grained and superior in flavor and keeping qualities to the Hubbard squash, but not so well known. (Pkt. 10c) (oz. 20c) (¼ lb. 50c) (lb. \$1.50) postpaid.

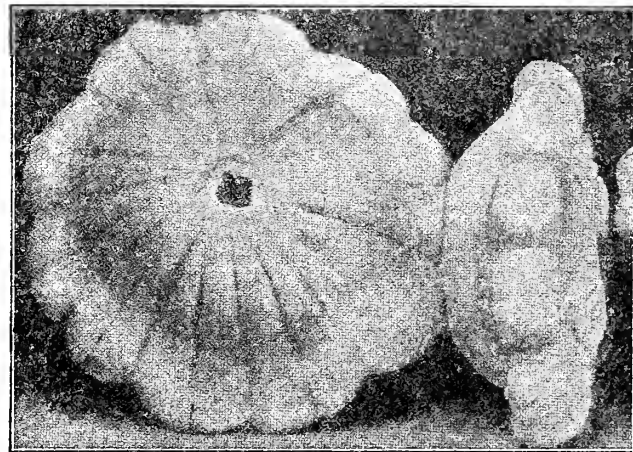
English Cream Marrow



English Cream Marrow

It is as sweet as a sweet potato, and has none of that pumpkin flavor. It is good any way it comes on the table, and is better than Hubbard

Squash for pie. It is 6 to 8 inches long and half as thick. (See picture.) Decidedly firm. It will keep from one season to another. (Pkt. 10c) (oz. 20c) (¼ lb. 60c) (lb. \$1.75) postpaid.



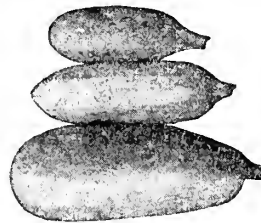
Extra Early Prolific

Extra Early Prolific This is similar to the White Bush Scallop, only the scallop is not so pronounced, but it is earlier and much more prolific, yielding half again as many squash. It is a remarkable money maker for the early grower.

(Pkt. 10c) (oz. 20c) (¼ lb. 45c) (lb. \$1.40) postpaid.

Zucchini

The favorite Spanish Squash. Like the Italian Squash it should be eaten when quite young, four to six inches long. It is a delicious summer variety; do not hesitate to plant it. It is very prolific, a few hills will suffice to keep the family well supplied the entire summer. (Pkt. 10c) (oz. 20c) (¼ lb. 65c) (lb. \$2.00) postpaid.



Improved White Bush Scallop The well known summer squash that has been the standard for more than fifty years, and always in demand because it is delicious on the table whether stewed or fried as Eggplant.

(Pkt. 10c) (oz. 20c) (¼ lb. 40c) (lb. \$1.25) postpaid.

Mr. Frank R. Myrick of Roosevelt, Cal., advises that he has found the White Bush Summer Squash to be excellent and profitable for pig feed.

Cocozelle An excellent squash for many purposes. Equal to the White Bush Scallop for the table when taken quite young. It is enormously prolific. When gathered closely and fed to stock, the vines will keep bearing continuously all summer, and far into the fall. It survives drouth to a wonderful degree. (Pkt. 10c) (oz. 20c) (¼ lb. 45c) (lb. \$1.25) postpaid.

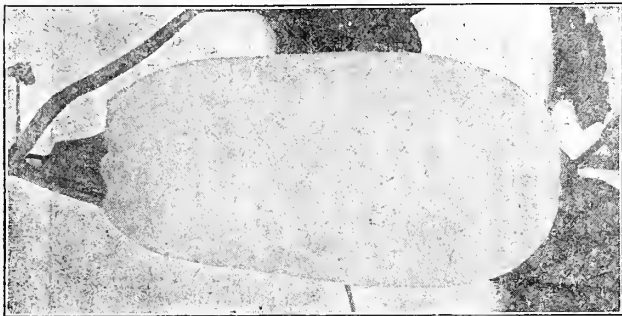
"I did have your catalog for 1917 but have misplaced it. Do you include the Garden Manual in the latest catalog? If it is any better than the '17 it must be a wonder. Any information pertaining to this particular locality would be greatly appreciated.

Roy Edwin Black, San Bernardino Co., Cal."

A & M SQUASH—(Continued)

Italian Squash Is a bush variety, and should be planted 5 feet apart. It should be used when quite young. When served it has a rich creamy flavor not equalled by any other squash. Some gardeners have made considerable money making a specialty of it. For the family garden we would recommend its use instead of the small White Bush Scallop, because of its excellent flavor. Since our introduction of this squash a few years ago, it has now become one of the staple products on the market. It is listed with the daily market reports, and is grown largely by the gardeners in frostless sections for the early trade. (Pkt. 10c) (oz. 20c) (¼ lb. 65c) (lb. \$2.00) postpaid.

Yellow Bush Scallop Similar to the White Bush Scallop in all respects except the color is yellow and claimed by some to have a better flavor. (Pkt. 10c) (oz. 20c) (¼ lb. 40c) (lb. \$1.25) postpaid.

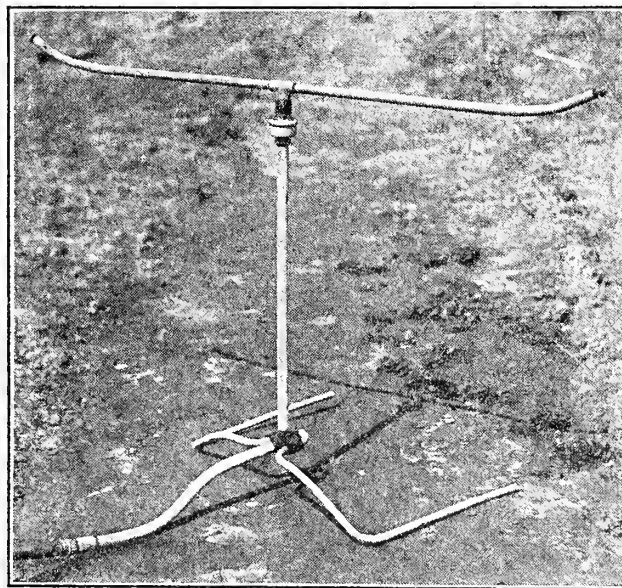


Long White Marrow

Long White Marrow This is exceedingly delicious as well as the most prolific of all English Marrows. Steamed when quite young or fried as egg plant it is equal to egg plant itself. The squash is about 12 inches long when mature, and has a light creamy color. (Pkt. 10c) (oz. 20c) (¼ lb. 40c) (lb. \$1.25) postpaid.

C. F. DIXON, California: Last year I got of you a few squash seed with my order, called Long White Marrow, which proved so much superior to any other summer squash that I ever saw or raised that I could not help but inform you of my thankfulness for having it. I sometimes wonder if it was not some new kind that you sent me. At any rate, it grew on very dry ground without irrigation with only a very reasonable amount of cultivation. Growing vines like a pumpkin and matured before the Crookneck and continuing until Christmas, and I believe would have been bearing yet if frost had not killed the vines. For hardness and tonnage, I believe it would be ahead of any pumpkin I ever saw. At least my pumpkins did practically nothing under even better conditions.

Golden Summer Crookneck The popular well known Crookneck. (Pkt. 10c) (oz. 20c) (¼ lb. 40c) (lb. \$1.25) postpaid.



THE SUNSHINE SPRINKLER No. 3

This sprinkler has fully met the requirements of the rural home. It has become very popular. Wherever one has been introduced, almost every neighbor will have one. Just the thing for a small alfalfa patch, a garden or lawn.

No. 1, for small plots.....\$4.00
No. 2, for small gardens.....5.25
No. 3, for large plots.....6.75

F. O. B. Here

A & M TOMATOES

Culture.—Tomatoes do best on light warm, not over-rich soil, and success depends upon securing a rapid, vigorous and unchecked growth during the early part of the season. Sow in hot-beds from 6 to 8 weeks before they can be set out of doors, which is when danger from frost is past.

Transplant three to six feet apart in rows four to six feet apart, according to variety,—three feet for those varieties of upright growth, as the Dwarf Champion, and six feet is not too far apart for vining varieties which will soon cover the ground solidly. The soil should be plowed and pulverized to a depth of ten or twelve inches, the deeper the better, in order that the roots may keep in the cool earth, for as soon as the roots are heated by the hot, dry soil near the surface, the plant quickly sickens and dies, and the grower can see no cause for it.

In the early fall when the nights have become cool and heavy dews prevail, it would be well to spray with Bordeaux Mixture, to prevent blight. It may be necessary also to spray after each rain throughout the winter.

To prevent root-blight, pour a cupful of Bordeaux around the stem at the surface of the ground.

The time of planting and variety depend upon your local market, soil and climatic conditions, and the purpose for which they are to be grown.

On sandy loam soil near the foothills, where it is nearly frostless, we recommend planting seed of the A. & M. First Early and John Baer in hot beds during November, December and January for winter and early spring tomatoes. Tomatoes that mature the latter part of April are considered early for Southern California.

Plant seed of the Stone and Greater Baltimore varieties during April, May, June and July, for the summer and fall crops, for canners and shippers.

For the home garden plant the HOME TOMATO and the Ponderosa, or Beefsteak.

Tomato-Leaf Blight Losses May Be Avoided By Spraying with Fungi-Bordo

"I wouldn't grow tomatoes in a blight-infested region without spraying," says S. L. Dodd, jr., extension pathologist for the United States Department of Agriculture and West Virginia Agricultural Experiment Station, who sprayed tomatoes for the control of blight in six counties of West Virginia in 1918. Thorough spraying was the keynote of his success. He made six, and in some fields seven applications, using spray mixture at the rate of 150 gallons an acre for mature plants. Spraying improved color and solidity of fruit, reduced rot and sunscald, and increased the yield of ripe fruit 39 per cent, and of both green and ripe fruit 55 per cent.

Small Sprayer Effective

A small knapsack compressed-air sprayer was used in this work. Such sprayers are light, easy to operate, and produce a fine misty spray. Several different kinds, varying somewhat in shape and construction, but built on the compressed-air principle, are now offered for sale.

The spray formula used was 5-5-3-50 Bordeaux soap mixture, composed of 5 pounds copper sulphate, 5 pounds stone lime, 3 pounds resin fish oil soap, and 50 gallons of water.

To reduce the work of preparing spray mixtures the following stock solutions were made: Five pounds of copper sulphate (blue stone) were dissolved by suspending it in a wooden vessel containing 5 gallons of water. Copper sulphate corrodes iron and tin. Five pounds of stone lime (quicklime) were slacked in another vessel by slowly adding water at first and later increasing the volume to 5 gallons. Three pounds of resin fish oil soap were diluted in a third vessel by stirring it in hot water until thin and increasing the volume to 5 gallons by adding water of ordinary temperature.

These stock solutions keep indefinitely if not mixed or weakened by rain, but the lime should be covered to prevent drying out and air slaking. The level of the liquid when freshly made and after each spray period should be marked on each vessel, and water added when needed to restore loss by evaporation.

Ten gallons of spray mixture are prepared by taking 1 gallon of each freshly prepared ingredient. Mix and dilute with water to 10 gallons.

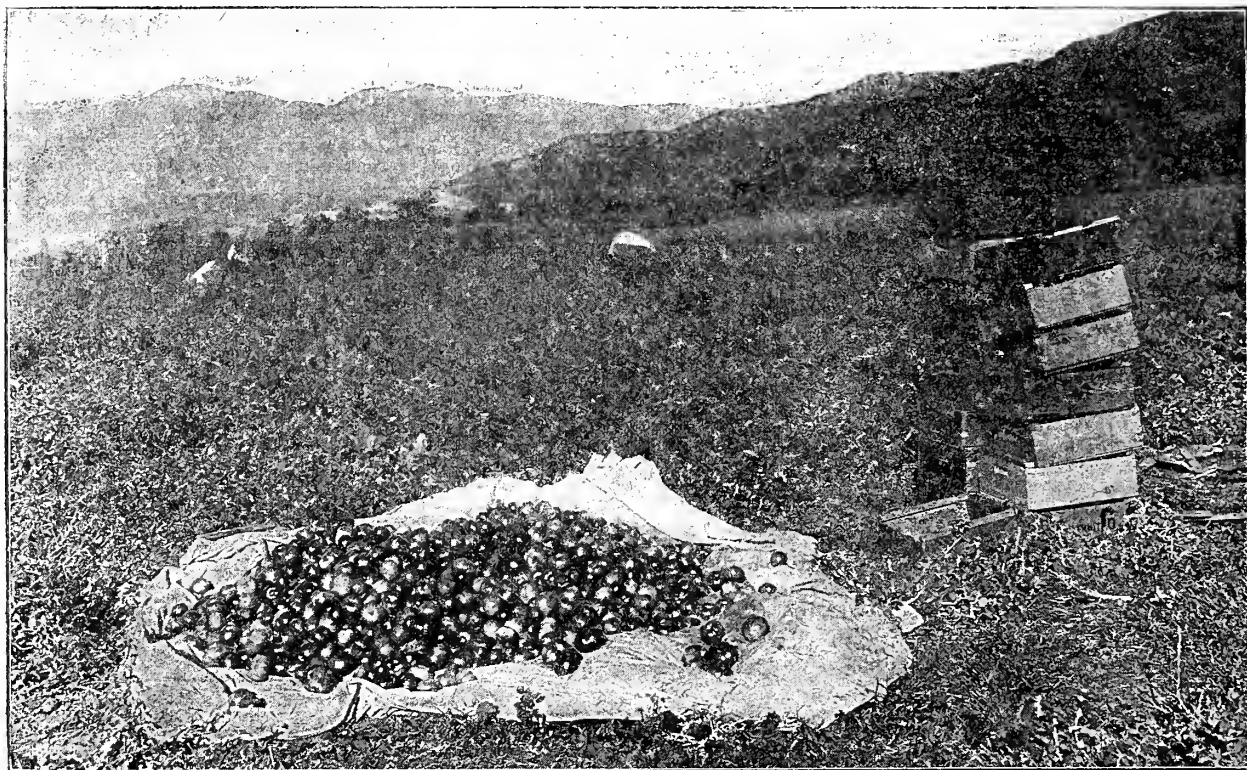
Picking and Hauling the Fruit.—Pick carefully and watch your pickers.

Don't disturb the vines any more than can be helped. Impress that upon your pickers.

Home Tomato

History of the Home Tomato.—We are indebted to A. Brandenberger of Lan-kershim, for calling our attention to this wonderful tomato. In his hotbed one plant grew far ahead of all the others. It was quite distinct in having large foliage. Mr. Brandenberger set it in a four-inch pot, and when only eight inches high, it blossomed, and when twelve inches high these blossoms developed three nicely shaped tomatoes. This plant was exhibited in our window as a curiosity. It was transplanted to the ground and grew to cover an area of fourteen feet in diameter, loaded with tomatoes. In order to keep it pure, Mr. Brandenberger propagated from cuttings off the original plant. Therefore we termed it the Home Tomato, on account of its earliness, delicious flavor, nearly round smooth shape, solid meat, and productiveness. Just the tomato for a home garden, where it can be trellised when space is limited. (Pkt. 10c) (oz. 50c) (¼ lb. \$1.50) (lb. \$5.00) postpaid.

TOMATOES—Continued



Gathering A & M First Early Tomatoes During April

This is a typical foothill tomato field. There are many like this in Southern California. It is here where the A & M First Early is a big money maker.

We have given much space to the subject of tomatoes for the reason that the growing of tomatoes in Southern California ranks with the big things of the great Southwest.

Few people know that thousands of acres of tomatoes are transplanted each month of the year from February until October.

The early planting is done in sheltered places along the foothills and along the coast, also in Coachella and Imperial Valleys. This crop matures during April and May and is shipped to all parts of the United States.

The Mid-summer crop is set out at any time from April 1st until August 15th. This comprises the large acreage planted throughout the southwest for local consumption and for the numerous canneries. We have no figures as to the acreage planted for this purpose, but it is enormous.

September and October are the months for planting tomatoes for mid-winter consumption. Usually the local market absorbs the entire crop.

Our advice is that it is profitable to grow midsummer tomatoes for the canneries at a satisfactory contract price. It is too much of a gamble to grow a large acreage for the open market.

It is profitable to plant as late as August 1st in foothill sections.

Your crop is then likely to be in its prime when the colder locations will have been destroyed by frost.

This too is about the time when the demand comes from the East, and when the fields had been destroyed by frost. The activity shown here was duplicated in hundreds of foothill sections in Southern California.

Earliana The plants are quite hardy, with rather slender branches and moderate growth, well set with fruits, nearly all of which ripen very early in the season. The tomatoes are bright red and close together in clusters of five to eight; all of medium size, averaging 2½ inches in diameter. (Pkt. 10c) (oz. 40c) (¼ lb. \$1.35) (lb. \$4.00) postpaid.

Bonnie Best Extra early, bright red, uniformly smooth, medium sized, solid and very prolific. It is very popular among growers of early tomatoes throughout the United States and wherever it has been tried. (Pkt. 10c) (oz. 40c) (¼ lb. \$1.35) (lb. \$4.00) postpaid.

In the \$500,000 class—See Back Cover

A & M First Early for the early market. We introduced the A. & M. First Early in 1909, and from that time to the present it has superseded all other early varieties throughout Southern California, and is continually growing in popularity here and elsewhere. For a first early money-maker, it has no equal in the tomato line. We cannot give it too much praise. The growers are not looking for an earlier one. It is good enough. (Pkt. 10c) (oz. 50c) (¼ lb. \$1.75) (lb. \$5.00) postpaid.

Dr. E. L. Paulding writes: "Gentlemen: I just want to tell you how well your tomato has paid me. Last December I got some of the A. & M. Tomato seed of you. I have my own plan of forcing, but it is not all in forcing, for I planted some other early sorts the same way, and served all alike. Yours was fully two weeks ahead of Earliana, if not more. I sold tomatoes for four weeks before I had any competition, getting all I asked for them, and having still the lead and the finest tomato in the local market."

The Early Shipper We have grown this tomato aside of the First Early. We are not willing to state that it is in any respect a better tomato, but it has a deeper red color and possibly more uniform shape. On account of its color and shape it may be more desirable for the early shipper, hence its name.

If you are growing for the early market, try it.

(Pkt. 10c) (oz. 50c) (¼ lb. \$1.75) (lb. \$5.00) postpaid.

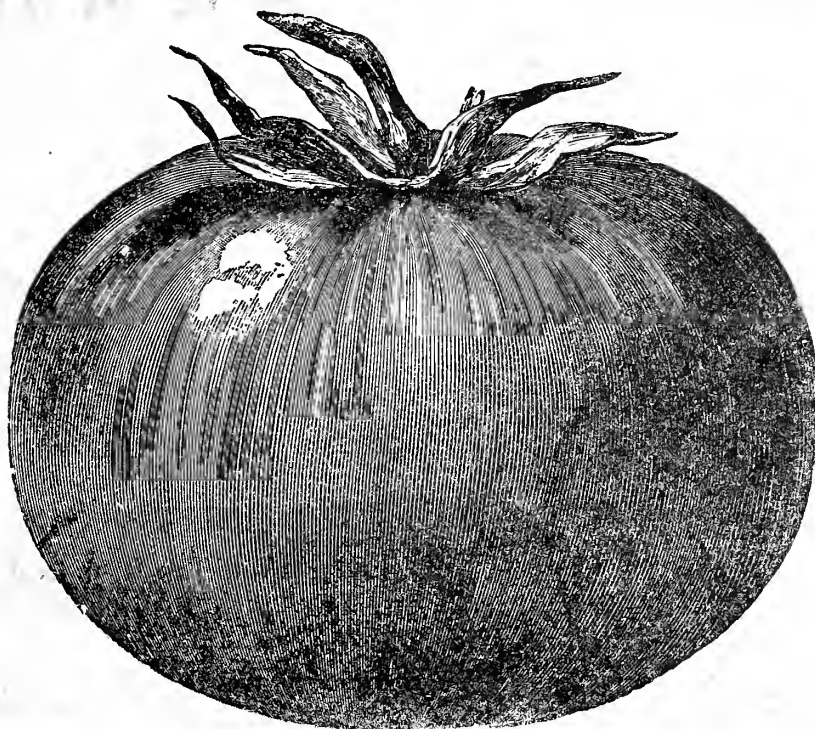
John Baer has exceeded every claim we made for it last season. It enabled the canners to begin two weeks earlier. The gardener brought to the market finer early tomatoes than he ever had before. Every tomato a smooth one. It is very prolific, every cluster bears four or five uniformly sized smooth tomatoes red from blossom to stem. We recommend it for heavy soils and for planting in young orchards. It has naturally a scant foliage suitable for early maturing but will yield ton for ton with the Stone.

For early market and early canning plant the John Baer. (Pkt. 10c) (oz. 50c) (¼ lb. \$1.75) (lb. \$5.00) postpaid.

King of the Earlies This variety is very popular in some sections. It does very well in Coachella and Imperial Valleys. For these places we recommend it.

Chalk's Early Jewel Excellent early tomato for home or nearby market; very prolific, red, smooth, and desirable size. Its mild flavor makes it desirable as a salad. (Pkt. 10c) (oz. 40c) (¼ lb. \$1.35) (lb. \$4.00) postpaid.

TOMATOES—Continued



Ponderosa

Ponderosa A very large, purple tomato with few seeds and of excellent flavor. Our strain is round and smooth—not the usual oblong wrinkled kind. It is favorite for the home garden, for which purpose we have on hand from March 1st until June extra fine, large, strong transplanted plants. (Pkt. 10c) (oz. 55c) (¼ lb. \$1.85) (lb. \$5.50) postpaid.

Golden Beauty A large yellow tomato of delicious flavor, and when preserved with a slight flavoring of lemon, is better than preserves made of any other tomato, because it lacks the strong tomato flavor. It is an excellent variety for salad. (Pkt. 10c) (oz. 35c) (lb. 10c) (oz. 50c) postpaid.

Golden Ponderosa A very large yellow tomato having a delicious flavor making a delightful salad. The yield is enormous.

Jordan and Casey of Redondo set out on May 25, 22 plants. On August 25 began picking; by November 15 they had picked more than 2000 pounds of tomatoes. The gentlemen are experienced tomato growers and say they never saw anything to yield so many large smooth tomatoes. (Pkt. 10c) (oz. 50c) postpaid.

Dwarf Champion (Tree Tomato)—Has long been a favorite midsummer tomato. Pink in color, smooth and solid, making it a good shipping variety. This has proven very satisfactory in Arizona. Its dense foliage protects the fruit from sunburning. (Pkt. 10c) (oz. 40c) (¼ lb. \$1.35) (lb. \$4.00) postpaid.

Dwarf Stone (Tree Tomato)—Large, red, smooth and solid. The stalk is upright, with dense foliage protecting the fruit from the heat of the sun. It is a desirable tomato to grow in the interior valleys. (Pkt. 10c) (oz. 40c) (¼ lb. \$1.35) (lb. \$4.00) postpaid.

June Pink The most popular extra early tomato grown in the South and East. It is very prolific and may be compared with the A. & M. First Early except its pink color. (Pkt. 10c) (oz. 40c) (¼ lb. \$1.35) (½ lb. \$2.25) (lb. \$4.00).

Genuine Italian Red Pear Shaped Used largely for making puree, preserving and spicing. (Pkt. 10c) (oz. 50c) postpaid.

Yellow Egg Excellent for pickling and preserving. Small yellow egg-shaped tomato of mild flavor. (Pkt. 10c) (oz. 50c) postpaid.

Ground Cherry Grows like a tomato; fruits like a tomato, but the small fruit is enveloped with a husk. It is good for preserves. (Pkt. 10c) (oz. 50c) postpaid.

"I am enclosing an order for some garden seeds. I received your 1920 catalog and I am very pleased with the detail that you go into to explain culture of the different seeds and plants. I have never had very much experience at gardening and this catalog is sure what a beginner needs. It puts you on the same basis as a man of several years experience. I. L. Hill, Los Angeles County, Cal."

For Market Near and Far—the Tomato for Canning

The New Improved Stone This is the most popular tomato in Southern California. Several thousand acres are planted to this variety exclusively for shipping to Eastern points after other tomatoes have been destroyed by frost. For this purpose the seed is planted about June 15th, and the tomato brought to full size about October 1st, after which it gradually ripens as wanted for shipping. The tomato is of good size, bright red, solid and smooth, enormously productive.

The canners prefer it because of its uniformly desirable size and solidity for canning. The grower prefers it because of the vigorous growth and large production extending throughout the season far into the winter months.

(Pkt. 10c) (oz. 40c) (¼ lb. \$1.35) (lb. \$4.00) postpaid.

San Jose Canner For several years canners in the San Joaquin Valley have recommended this tomato. We are slow to offer our trade any new thing that we are not thoroughly familiar with. Therefore we tried this tomato and can say it is superior to the Stone. Just the thing that will sell ahead of the other fellows at the market. It is large, prolific and deep red. (Pkt. 10c) (oz. 50c) (¼ lb. \$1.75) (lb. \$5.00) postpaid.

Hummer We consider this one of the finest tomatoes for the market gardeners. It is early, solid, smooth, good size, bright red, and enormously prolific with abundant foliage to protect the fruit from scalding. As a shipper it cannot be excelled, even by the popular Stone tomato. (Pkt. 10c) (oz. 50c) (¼ lb. \$1.75) (lb. \$5.00) postpaid.

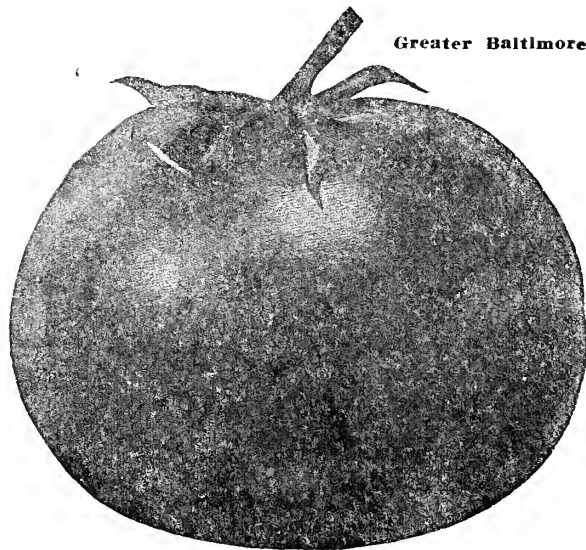
"It might be interesting to you to know that the Hummer Tomato for our climate and the 'near red adobe' soil does very well indeed. We have faithfully tried the other tomatoes for three years and have had absolute failures every time, so conclude the Hummer Globe is the best here. Our Garden is only a family garden, but we raise practically all of our own vegetables, and try out carefully each variety that we do try."

(Signed) Mrs. Chas. L. Gilmore,
California (Sacramento Co.)

Livingston Globe An excellent pink tomato for salads. Size three to four inches in diameter, smooth and solid. We recommend it for the home garden (Pkt. 10c) (oz. 50c) (¼ lb. \$1.35) (lb. \$4.00) postpaid.

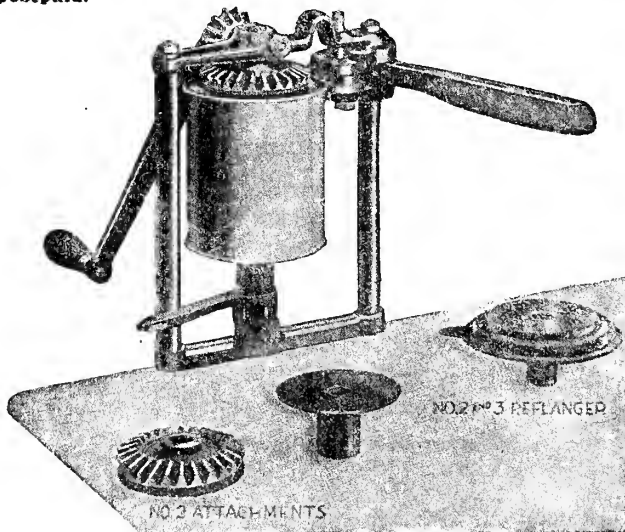
Dwarf Ponderosa A large tomato on a small vine; just the thing for a small garden. The tomato is delicious. (Pkt. 10c) (oz. 50c) postpaid.

TOMATOES--Continued



Greater Baltimore

Greater Baltimore For several years this variety has been extensively advertised by the Baltimore seed house. It is similar to the Stone, therefore we hesitated to list it. But last season some of our local growers tried it and recommended it to us. One large canner insists upon having this variety and has already ordered (his plants. (Pkt. 10c) (1 oz. 60c) (¼ lb. \$2.00) (lb. \$6.00) postpaid.



BURPEE HOME CAN SEALER

If interested write for circular.

When we offer any new thing, it must have merit. Therefore we stand back of it. This new can sealer appeals to us because it is economical and easy to operate. You may use the sanitary tin cans, they cost less. Each can may be used three times, once when new, twice again by removing first one end and reseal, then the other end by using the opening and reflanging attachment.

It is surely an economical tin can sealer, and ought to have a place on every fruit and vegetable ranch. Every housewife can then put up all surplus fruit and vegetables and sell the canned articles by the wayside, just as Honey, Olives and other ranch products are now sold.

There is money in it. Establish your own brand and build up a demand for it.

Approved by United States Department of Agriculture
The following letter was written from the United States Department of Agriculture:

"A hand-sealer of this type will make it more possible for every farm home to become a canning factory. We congratulate you upon your achievement in perfecting this machine and thank you for the contribution to the success of home canning work."

The manufacturer puts out several sizes but we have selected for you only the one complete machine, the one that will seal, open and reflare both pint and quart cans. It is the most complete machine they put out, and sells for only \$24.00 f. o. b. here.

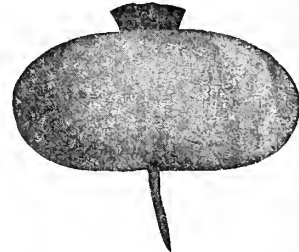
Complete operating directions go with each machine. It is easy to operate.

A & M Turnips

Culture—(See page 9). Turnips may be sown broadcast on damp sandy soil or in drills as beets and carrots. Drill in rows ten inches apart, not too thick in the row. The Purple Top Globe variety is now leading in popularity because of its mild flavor and its adaptability to our summer climate.



Purple Top Strapleaf



White Flat Dutch

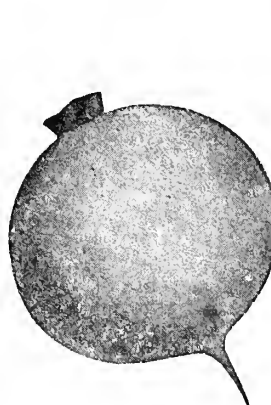
Early Purple Top Strap-Leaf A very popular variety in this section for either family or market use; large size, white, purple above ground; flesh fine grained. (Pkt. 10c) (oz. 20c) (¼ lb. 35c) (lb. \$1.00) postpaid.

Golden Ball A rapid grower of excellent flavor; bright yellow color; good keeper and a superior table variety or for stock. (Pkt. 10c) (oz. 20c) (¼ lb. 40c) (lb. \$1.25) postpaid.

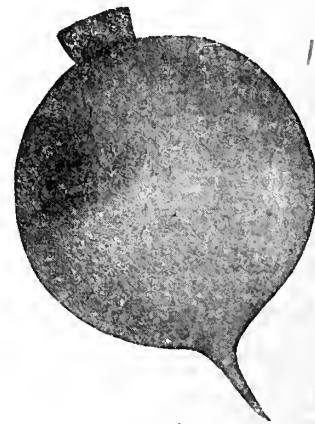
Early White Flat Dutch An early white-fleshed strap-leaved variety; for quick growth, mild flavor and excellent quality. (Pkt. 10c) (oz. 20c) (¼ lb. 35c) (lb. \$1.00) postpaid.

Early White Globe A large, round turnip, with sweet flesh. (Pkt. 10c) (oz. 20c) (¼ lb. 35c) (lb. \$1.00) postpaid.

Purple Top Globe Solid, very sweet, slow to get pithy. The very best variety for the summer season. Indeed, the best for any season, but slower to mature than the Strap-Leaf. (Pkt. 10c) (oz. 20c) (¼ lb. 35c) (lb. \$1.00) postpaid.



Snowball



Purple Top Globe

Snowball Next to the Purple-Top Globe in popularity, but preferred by many because of its beauty and excellent flavor. It is slow to get pithy in the summer, but always crisp during the winter. (Pkt. 10c) (oz. 20c) (¼ lb. 40c) (lb. \$1.25) postpaid.

Improve Purple-Top Rutabaga

The best of the Swede Turnips. Very hardy and productive; flesh yellow is very solid, sweet and well flavored. (Pkt. 10c) (oz. 20c) (¼ lb. 40c) (lb. \$1.25) postpaid

Sherwin-Williams

Insecticides will insure you better Fruits and Vegetables

FRUIT OR VEGETABLE	PEST	WHAT TO USE	DILUTION (See Below)	WHEN TO SPRAY
APPLE	San Jose Scale	Dry Lime-Sulfur	12 to 15 lbs.	In fall after leaves drop or in spring when trees are dormant.
	Codling Moth	Dry Arsenate of Lead	1 to 1½ lbs.	(1) At fall of the blossoms before the calyx closes. (2) Three weeks after fall of blossoms. (3) Ten weeks after fall of blossoms. (4) Fourteen weeks after fall of blossoms. (5) Seventeen weeks after fall of blossoms. (Sprays 4 and 5 are advised for apple regions below latitude of Central Illinois and for certain parts of the Northwest.)
	Cankerworm	Dry Arsenate of Lead	1 to 2 lbs.	(1) Just before blossoms in cluster-bud. (2) At fall of blossoms.
	Bitter-Rot	Fungi-Bordo	9 lbs.	Spray about the middle of June and keep fruit coated the rest of the season.
	Blotch	Dry Lime-Sulfur Fungi-Bordo	3 lbs. 7 to 9 lbs.	(1) Three weeks after fall of blossoms. (2) Five weeks after fall of blossoms.
	Scab	Dry Lime-Sulfur	3 to 4 lbs.	(1) Just before blossoms in cluster-bud. (2) At fall of blossoms. (3) Within a week or ten days later. (4) Latter part of July in Atlantic States if weather is cool and wet.
PEACH	Peach Twig Borer	Dry Lime-Sulfur	12½ lbs.	Just after buds begin to swell.
	Curculio	Dry Arsenate of Lead and Lime	1 to 1½ lbs. 3 lbs.	(1) When first shucks are pushing off. (2) Again when all shucks are off. (3) Three or four weeks after fall of blossoms.
	Brown Rot	Self-Boiled Lime and Sulfur	8 lbs. of each	(1) When all shucks are off. (2) Three or four weeks after fall of blossoms. (3) Four weeks before fruit is ripe. Should weather turn damp and warm near ripening time keep fruit well coated with spray.
	Scab	Self-Boiled Lime and Sulfur	8 lbs. of each	Spraying for Brown Rot controls Scab.
PEAR	Leaf Curl	Dry Lime-Sulfur	12 to 15 lbs.	Either in fall after leaves drop or in spring before buds swell.
	Slug	Dry Arsenate of Lead	1 lb.	When slugs appear.
	Pear Psylla	(1) Spr-Mulsion (2) Dry Lime-Sulfur (3) Spr-Mulsion	3 to 4 gals. 12 to 15 lbs. 3 to 4 gals.	(1) During November, December, March or April on warm days. (2) When cluster-buds are separating at tips. (3) When leaf buds are just opening.
	Pear Leaf Blister Mite	Dry Lime-Sulfur Spr-Mulsion	12 to 15 lbs. 3 to 4 gals.	In fall after leaves drop or in the spring before buds burst.
	Scab	Dry Lime-Sulfur Fungi-Bordo	3 to 4 lbs. 9 lbs.	(1) Just before bloom, cluster-bud. (2) At fall of blossoms. (3) Two weeks later.
PLUM	Curculio	Dry Arsenate of Lead	1 lb.	(1) Just before blossom buds open. (2) At fall of blossoms. (3) A week later.
	Brown Rot	Dry Lime-Sulfur	1 to 1½ lbs.	(1) Just before buds open. (2) Immediately after blossoms fall. (3) Ten days to two weeks later. If season is wet, spray every two weeks until month before picking time.
	Leaf Spot	Dry Lime-Sulfur	1 to 1½ lbs.	(1) Ten days after fall of blossoms. (2) Three weeks later. (3) Six weeks after fall of blossoms.
CHERRY	Cherry Slug	Dry Arsenate of Lead	1 to 1½ lbs.	When slugs appear.
	Curculio	Dry Arsenate of Lead	1 to 1½ lbs.	(1) At fall of blossoms. (2) A week to ten days later.
	Brown Rot	Dry Lime-Sulfur	1 to 1½ lbs.	(1) Just before the blossoms. (2) At fall of blossoms. (3) A week to ten days later. (4) When fruit begins to color.
GRAPE	Rose Chafer	Dry Arsenate of Lead and Molasses	2 lbs. 1 gal.	At first appearance of beetles and one week later if beetles are still present.
	Grape Berry Moth	Dry Arsenate of Lead	1½ lbs.	(1) Just before fruit sets. (2) About ten days later. (3) Mid-July.
	Black Rot	Fungi-Bordo or Peatroy	7 to 9 lbs. 7 to 9 lbs.	(1) When second or third leaf is showing. (2) Before the blossoms open. (3) After fall of blossoms. (4) About ten days to two weeks later. (5) Again in ten to fourteen days.
CURRANT and GOOSEBERRY	Curculio	Dry Arsenate of Lead	1 to 1½ lbs.	When worms first appear.
	Powdery Mildew	Dry Lime-Sulfur	2½ to 3 lbs.	(1) When buds burst. (2) At ten-day intervals until five applications have been made.
STRAWBERRY	Leaf Roller	Dry Arsenate of Lead	1½ lbs.	A week after moths appear.
	Leaf Spot	Fungi-Bordo	7 to 9 lbs.	(1) Before blossoms open. (2) Ten days to two weeks later.
RASPBERRY	Anthracnose	Dry Lime-Sulfur	4 lbs.	(1) When new shoots are six inches high. (2) When ten inches high. (3) Just before bloom.
POTATO	Colorado Potato Beetle	Dry Arsenate of Lead Tuber-Tonic Paris Green	1 to 2 lbs. ½ to 3 lbs. ½ to 2 lbs.	Before eggs hatch and every 10 to 14 days until insects disappear.
	Flea Beetle	Peatroy	9 lbs.	Spray frequently as repellant.
	Late Blight	Fungi-Bordo	7 to 10 lbs.	Begin when plants are 6 inches high and thereafter at 10-day intervals until 4 or 5 sprays have been applied.
BEAN	Bean Ladybird	Dry Arsenate of Lead	2 lbs.	When beetles and eggs appear.
	Anthracnose	Fungi-Bordo	9 lbs.	While Cotyledons or original seed parts are still on seedlings.
TOMATO	Tomato Worms	Dry Arsenate of Lead	1 to 1½ lbs.	When worms appear.
	Leaf Spot	Fungi-Bordo	7 lbs.	At setting time and at two-week intervals up to picking season.
ONION	Thrips	Nicotina Sulfate and Soap	½ pint and 2½ lbs.	Spray frequently in crotch of plants.
	Mildew	Fungi-Bordo	7 lbs.	Spray frequently.
CABBAGE and CAULIFLOWER	Cabbage Worms	Dry Arsenate of Lead and Soap	1 lb. 5 to 6 lbs.	When worms appear.
ASPARAGUS	Asparagus Beetle	Dry Arsenate of Lead	6 lbs.	Leave every tenth row uncot and spray from both sides. Apply three or four sprays at frequent intervals.
BEET	Leaf Spot	Fungi-Bordo	7 lbs.	Early in spring when plants are small.
CELERY	Early and Late Blight	Fungi-Bordo	7 lbs.	Spray frequently.
CUCUMBER	Striped Cucumber Beetle	Peatroy	7 lbs.	Spray frequently to repel beetles.
EGGPLANT	Flea Beetle	Peatroy	7 lbs.	Frequent applications.
MUSKMELON or CANTALOUPE	Aphis	Nicotina Sulfate	½ pint	When lice appear. Spray undersides of leaves.
PEPPER	Rot	Fungi-Bordo	7 lbs.	Spray two or three times during fruiting season.

All dilutions on basis of amount per 50 gallons of spray.

INSECTICIDES

All prices are f. o. b. here; when ordered sent by mail add postage. See parcel post rate inside front cover page.

Notice Poisonous insecticides cannot be sent by mail. Many insecticides are not dangerously poisonous. Some are in liquid form, put up in tins or glass; to send these by mail, extraordinary care must be given to the packing, which necessarily adds much to the weight and therefore the postage may seem out of proportion to the purchase price.

On bulky items where the postpaid price is not mentioned, we prefer to send by express, and shall do so unless requested to do otherwise.

If wanted by parcel post, add sufficient money to cover postage. Estimate liquids plus package at the rate of 4 pounds to the quart, or 14 pounds to the gallon. See parcel post rate on inside of front cover page.

Prices fluctuate and are subject to market changes.

"To successfully grow fruit and vegetables, it is necessary to be prepared at all times to combat and control the destructive insects and diseases which are classified in three distinctive classes; namely, leaf-eating and chewing insects, leaf-sucking insects and fungus diseases.

Different control measures are used in combating each type of insect and disease as above mentioned.

Complete information from our best authorities on this subject has been secured and may be obtained in book form free. Write for our S. & W. Sprayers Manual.

Sherwin Williams Dry Powdered Arsenate of Lead

Because of its unusual lightness, stays thoroughly in suspension during spraying operations, thus giving the spray uniform strength. May be used as a wet spray, or dusting. For the control of Codling Moth, Cabbage Worms, and all leaf-eating and chewing insects.

Directions: One to one and one-half pounds to fifty gallons of water. Or three or four level tablespoonfuls to one gallon of water. For dusting use with five or six parts powdered Lime. (½ lb. 40c) (1 lb. 70c) (5 lbs. \$3.00). Cannot be sent by mail.

Sherwin Williams Fungi-Bordo (Bordeaux Mixture)

In powdered form, mixes perfectly with cold water. For peach, tomato, and potato blight and all fungus diseases.

Directions: Use seven to nine pounds to fifty gallons of water. Or seven to eight tablespoonfuls to one gallon of water. (1 lb. 45c) (5 lbs. \$2.00). Write for quantity price. Cannot be sent by mail.

Sherwin Williams Dry Lime-Sulfur

The use and success of Lime-Sulfur Solution is known to practically every fruit grower in the country. Sherwin-Williams Dry Lime-Sulfur is standard Lime-Sulfur Solution in dry powdered form—the first and only one of its kind on the market. It has all the advantages of the liquid material, but eliminates the disadvantages—of heavy freight charges, loss from evaporation and leakage; also the inconvenience of handling a heavy and bulky barrel. Its effectiveness has been proven by a number of years of use by large fruit growers and practically all Experiment Stations.

It will control San Jose scale, Leaf Blister mite, Peach Leaf curl and red spider.

Directions for use in spraying dormant trees. Use from ten to fourteen pounds to fifty gallons of water or eight to ten tablespoonfuls to one gallon of water. For summer spraying against fungus diseases on all stone fruit, use two and one-half to three pounds to fifty pounds of water. (1 lb. 35c) (5 lbs. \$1.10) (10 lb. pkg. \$2.00). Write for quantity price. May be sent by mail.

Sherwin Williams Paris Green

has by years of use proven its quality. It has become the standard Paris Green in localities. It is light and fluffy, insuring good suspension in the spray tank and thorough covering of the foliage; contains approximately 56% arsenious oxide and less water soluble arsenic than is allowed by the law. It is one of the safest and most effective Paris Greens on the market today.

Directions for use: Four to six ounces to fifty gallon of water. Or two teaspoonful to one gallon of water. For cut worms and grasshoppers add one tablespoonful of Paris Green to ten pounds of bran and spread about the base of the plants. It is also well to add ¼ lb. Paris Green to each barrel of Bordeaux when spraying tomatoes. (¼ lb. pkg. 40c) (½ lb. 70c) (1 lb. 90c). Write for quantity price. Cannot be sent by mail.

Sherwin Williams Pruning Compound

Will aid nature in healing wounds without retarding the growth. Has special disinfectant qualities. The compound is ready for use. Cover all cuts at once; use stiff brush or cloth to apply. (1 qt. 75c) (1 gal. \$2.25). May be sent by mail.

Sherwin Williams Tuber-Tonic

A two-in-one spray, controlling both the tomato worms and blight. Many large tomato and potato growers have used Tuber-Tonic with splendid results and have re-ordered. A combination of Paris Green and Bordeaux Mixture. Seven to ten pounds to fifty gallons water. (1 lb. 75c) (5 lbs. \$3.05). Write for quantity price. Cannot be sent by mail.

Sherwin Williams Spra-Mulsion Is a high quality chemical emulsion. It emulsifies perfectly in water. Is used for the control of various types of deciduous scale. It has also been found very effective for the control of citrus scale when used in combination with Dry Lime Sulfur. Directions for spraying dormant deciduous trees: One gallon of Spra-Mulsion to twelve gallons of water. Direction for spraying citrus trees: One gallon of Spra-Mulsion to forty gallons of water; with the addition of 2½ pounds of Dry Lime Sulfur. Spraying should be done early in the fall, between the first of September and first of December. Thoroughness of application is very necessary. (1 quart 60c) (1 gallon \$1.25) (5 gallons \$5.00).

Ant Powder Watch it get 'em. (¼ lb. 25c) (½ lb. 50c). Schrader's Ant Powder, (¼ lb. 25c) (½ lb. 50c). May be sent by mail.

"BLACK LEAF 40"

Nicotine Sulphate—40% Nicotine

1 oz.—\$0.25—makes 6 gals. spray
½ oz.—\$1.00— " 40 to 120 gls. spray
2 oz.—\$3.25— " 160 to 500 " "
10 oz.—13.75— " 800 to 2500 " "

Blue Stone (Sulphate of Copper). Applied in time it will prevent mildew and all fungus diseases. Also prevents smut on barley and wheat, by soaking seed to be planted in a solution of 1 lb. to 6 gallons of water for ten or fifteen minutes. (Per lb. 25c). Write for quantity price. May be sent by parcel post.

Buhach Powder (1½ oz. packages 20c) (3 oz. packages 40c) (6 oz. packages 70c) (12 oz. packages \$1.25). May be sent by mail.

Carbolic Acid, Crude (1 pt. cans 40c) (1 qt. cans 60c). Cannot be sent by mail.

Carbon Bi-Sulphide (Liquid). For exterminating gophers, squirrels, ants or any vermin that live under the ground. Saturate cotton or other absorbent, put deep in hole and close all openings. For ants, pour into the openings. For weevil in grain, put grain in air-tight chamber; for 100 cubic feet of space use ½ pint Carbon Bi-Sulphide, saturate it into any absorbent so that it will evaporate quickly; close the chamber tightly for three or four hours. It is not necessary to remove the grain from the sacks. **Notice:** It is very combustible. Do not smoke or have fire near while handling. (12 oz. 40c) (25 oz. 60c) (1 gal. \$2.00). Cannot be sent by mail.

Formaldehyde (Liquid). For destroying the germs of smut on grain, scab and rhizoctonia on potatoes. Dilute one pint in forty gallons of water, submerge potatoes one and one-half hours and grain only long enough to moisten it. (½ pint 75c) (1 pint \$1.35) (1 qt. \$2.00). Cannot be sent by mail.

Hammond's Slug-Shot (Powder). Destroys bugs, insects and worms on melons, lima beans, cucumbers and tender plants. Also for use on asters, roses and flowering plants. Easily distributed by duster or in water by spraying 1 lb. to 10 gallons of water. Not injurious to persons or animals. May be sent by mail. (1 lb. 25c) (5 lbs. 85c).

Kills-all Is a new insecticide which has been thoroughly tested for the past year and by thorough experiments we have found it to be the best remedy we have ever tried for Mealy Bug, Thrip, White Fly, Woolly Aphis, Red Spider, Soft Shell Scale and Black Aphis. It may be used on the most tender greenhouse plants, according to directions, without burning the foliage. We consider this insecticide well named and believe it to be the best all-purpose insecticide we have to offer. Proportions for use: For Aphis on all kinds of Roses, Chrysanthemums, greenhouse plants, etc. use one part Kills-All to thirty parts of warm water. For Thrip on Roses, one part Kills-All to forty parts of warm water. For scale of all kinds on Ferns, Fruit Trees, etc. one part to twenty-five parts warm water. For Mealy Bug of all kinds, one part to twenty parts warm water. For Mildew, one part to thirty parts warm water. Water in which you can hold your hand comfortably is about the right temperature for mixing. Never spray plants during the period of full sunshine, preferably during the evening. After opening the can thoroughly mix contents before placing the same in warm water. (½ lb. cans 50c) (1 lb. cans 85c) (5 lb. cans \$3.00) (40 lbs. \$20.00). May be sent by mail.

Lime Hydrated This is a fine powdered Lime, slacked by steam. Mixed with water; this makes an excellent preparation for white-washing and disinfecting of all kinds. (4 lb. cartons, 25c each) (80 lb. sacks \$1.50). Can be sent by mail.

Lime Air-slacked. (80 lb. sacks \$1.20).

INSECTICIDES—Continued

FERTILIZERS

P. S. C. Rosin Spray Effective for black, red, yellow, purple and citricola scale, mealy bugs, woolly aphis, black peach aphis and plant lice. Recommended by the Horticultural Commission. Dissolve 1 lb. of the spray in 2½ gallons of either hot or cold water and thoroughly mix before spraying it on trees or plants. (1 lb. can 30c) (2 lbs. 45c) (4 lbs. 75c) (40 lb. can \$5.00).

Sulphur As an insecticide is used for the control of Red Spider and Mildew. Is used extensively on vines and vegetables. The Sulphur we have to offer is the purest that money can buy. We offer three brands but would recommend:

Anchor Brand110 lb. sack.....\$5.80
Eagle Brand110 lb. sack..... 5.55
Diamond S Brand110 lb. sack..... 4.15

F. o. b. Los Angeles

Tobacco Dust For aphids and small insects in plant beds and poultry houses. (lb. 20c) (10 lbs. \$1.50). Cannot be sent by mail.

Tobacco Stems For fumigating green-houses and chicken nests. (10c lb.) (by mail 20c per lb.). Write for Quantity price.

Tree Tanglefoot (Paste). This is a sticky substance applied to the bark of trees to protect them from all climbing insects and also rabbits. It will prevent ants from entering the trees. One application is good for three or four months. (lb. cans 60c) (3 lb. \$1.75) (10 lbs. \$5.00).

Whale Oil Soap (Fish Oil). This is not only an excellent insecticide for killing plant lice and fungus growth, but should be mixed with most all liquid sprays as it causes the spray to adhere much better to the leaves. (1 lb. 25c) (5 gal. cans 18c lb.). May be mailed.

Gopher and Squirrel Exterminators

Gopher Candles For the extermination of Gophers. Candles are lighted and placed in the run-ways and the entrance thoroughly stopped. (12 candles in a package, 75c per doz.). Can be sent through mail.

Gopher-Go (Poisoned raisins and grain). This is used by placing one tablespoonful in their open run-ways. (Small size 50c) (Large size \$1.00).

Gopher-Gas Balls Are used by lighting and rolling into the burrows of the gopher, the same as the Gopher Candle. (5c each) (50c doz.) (Box of 125, \$4.35). Can be sent by mail.

Squirrel Poison—Moore's (Grain). A certain and specific destruction of gophers, squirrels, crows and mice. (Small size 50c) (Medium size \$1.00) (Gallon-size \$2.00) (5 gallon drums \$7.00).

LET US TELL YOU HOW TO MAKE BIG MONEY IN POTATO GROWING

The Potato is not a self-feeding plant; it cannot be made to support itself and do well. It must be fed well to produce a yield that pays up to the average accomplishment of successful growers.

We have a **SPECIAL POTATO FERTILIZER** of proven worth and so satisfactory that it has been used for years by the same growers with great success and with undiminished confidence in its value.

SULPHATE OF POTASH seems to have a direct action on the starch formation in Potatoes and Potatoes with a higher starch content show better cooking qualities and generally they are of finer, smoother skin, more regular in size and of most excellent demand in the market.

Never starve your potato plants, for if there is plenty of plant food available, even though conditions are unfavorable part of the growing season, the plants will be able, when conditions are better and more favorable to make up time and turn out a good crop after all.

The growing season of Potato plants is short, therefore the fertilizer, to do good, must be rapid and made of materials all of which are immediately soluble in water and capable of being assimilated by the plant when it starts to growing.

The analysis of our Potato Fertilizer is:

4% Nitrogen
 8% Phosphoric Acid
 4% Sulphate of Potash.

All the materials are finely ground. No one can make a better fertilizer for Potatoes than we are recommending in this mixture and it will pay you to use it.

Price: \$4.50 per 100 lbs.; \$42.50 per 1000 lbs. F. O. B. Los Angeles

WRITE FOR QUANTITY PRICES ON ALL FERTILIZERS The necessity for using fertilizer is more and more apparent. The gardener has learned it is not profitable to economize in the use of fertilizers. Scientific farming teaches us that fertilizers must be chosen and applied intelligently. Therefore we advise that you write the College of Agriculture, University of California, at Berkeley, Cal., for Bulletin No. 272 and 288 and Circulars No. 170 and 111. Write United States Department of Agriculture, Washington, D. C., for Farmers' Bulletin No. 921.

The three most essential ingredients in fertilizers, to stimulate plant growth, are nitrogen, phosphoric acid and potash. In the following high grade fertilizers we have all of these combinations properly mixed to give the best and quickest results. They contain no weed seed and are easily applied.

A. C. W. Lawn Fertilizer Practically odorless, quick-acting. Starts immediately a luxuriant rich green growth. A plant food and lasting soil builder. It carries no weed seeds or harmful parasites that often come in manure that may in a short time cause great damage to the garden. Being in powdered form it is easily and quickly applied. Having practically no odor it is never an annoyance, does not attract flies, nor it is in any way objectionable. For Lawns, Gardens, Roses, Potted Plants and most garden flowers.
 (50 lb. sack, \$2.00) (100 lb. sack \$3.90), f. o. b. Los Angeles

Special Potato Fertilizer We call your attention to our Special Potato Fertilizer on page 59 of the catalog.

Price—(100 lbs. \$4.50) (1000 lb. lots \$4.25 per 100 lbs.). F. o. b. Los Angeles.

Bradley's Lawn and Garden This brand is a well balanced complete fertilizer intended for lawns, gardens, and is a general purpose fertilizer. Can either be sown broadcast and harrowed in or drilled with the seed. Excellent for berries of all varieties. (50 lb. sacks \$2.25) (100 lb. sacks \$4.25).

Bradley's Tree and Vine A complete fertilizer that will give immediate results. Just the thing for trees, shrubs, vines and roses. Analysis, 3% ammonia, 8% available phosphoric acid, and 2% available potash. (Per 100 lbs. \$4.00).

Fish Fertilizer This fertilizer is composed of dried fish, finely ground, and is purely organic. An excellent fertilizer for all crops. Will last for several crops without the need of other fertilizer. Write for prices.

Dried Blood Meal Is very rich in nitrogen and an excellent plant-food for increasing the yield of vegetables and fruit, and also for stimulating the growth of flowers. There is from 12 to 13% nitrogen. Write for price.

Bone Meal 3½% nitrogen and 16% phosphoric acid. Neither of these two elements are immediate in their action. If put in the soil in the Fall, some results will show the following Spring. Slow but sure. Write for price.

Nitrate of Soda Contains about 15% nitrogen. Is very quick in action and entirely soluble. Is best applied after the plants are growing. Price fluctuates; write for prices.

Leaf Mould Excellent for mixing with soil for potted house-plants, especially ferns of all kinds. (Per sack \$1.00).

Gypsum This is not a fertilizer, yet it has an indirect fertilizing value, which is mainly due to the fact that it has the power of changing unavailable forms of plant-food, especially potash, into available forms. A heavy dressing of Gypsum will greatly improve any soil, rendering it lighter and more easily cultivated, and relieve the tendency to crust and bake. Have the soil analyzed by the State Agricultural College before using Gypsum. (Per 100 lbs. \$1.50). Write for Quantity prices.

Agricultural Hydrated Lime

It supplies the element calcium to plants; It makes "sour soil sweet," changes an acid condition to a slightly alkaline one; it has the power to shrink clay and adobe soils, making a larger number of crumbs from a sticky mass; it prevents packing, baking and cracking, makes cultivating easier; it promotes the normal decay of organic matter in the soil, preventing the accumulation of poisonous matter; it promotes the change of nitrogen in organic matter into available nitrates, liberates and places at the disposal of plants potash and phosphoric acid already in the soil. It destroys fungus and the germs of insect life that infest the soil. Hydrated Lime, because of its fineness, high calcium contents concentrated condition, is the ideal agricultural lime and the most economical on the market. Use one-half less than other forms of lime. In cloth sacks weighing approximately eighty pounds. (Per sack \$1.50). Write for prices in ton and carload lots.

New Scientific Discovery Sulphur as a Fertilizer

What we announced last year as a new innovation is now recommended by Agricultural Colleges and Farm Advisors to such an extent that we have had prepared for us a special formula of sulphur compound to be used for fertilizer only.



The Toro Brand

FERTILIZER, INSECTICIDE AND FUNGICIDE

100 pounds of sulphur per acre spread broadcast and harrowed will prove a good fertilizer and act as a repellent against any fungus; it may entirely prevent mildew, rust, wilt, blight and nematode and may destroy eggs and larva that may be in the soil. The possibilities of sulphur as a fertilizer are not yet known.

It is unfortunate that Amendment 12 was rejected. This is the kind of education that is handicapped for lack of funds. If the chance comes again vote Yes.

Sulphur as a Fertilizer

Experiments conducted during the past few years by noted soil chemists and practical cultivators have revealed the truth that Sulphur kills alkali, promotes nitrification, transforms potash and phosphates lying latent in the land into available plant food, thereby reclaiming and stimulating soil to produce greatly increased crops at a comparatively low cost per acre. The following are authorities for the above statements:

Dr. C. B. Lipman, Professor of Soil Chemistry and Bacteriology, University of California.

Dr. F. C. Reimer, of the Southern Oregon Agricultural Experiment Station.

Professors P. E. Brown and E. H. Kellogg of the Iowa Agricultural Experiment Station, authors of "Sulphafication in soils).

Wonderful successes have been made by those who have fertilized soils with Sulphur. Here is one of the practical results:

Dr. F. C. Reimer, of the Southern California Experiment Station, harrowed powdered Sulphur into Aogee River Valley land in the proportion of 300 pounds to the acre. He planted alfalfa in this sulphurized soil and in an adjacent untreated tract under exactly similar conditions. At a total cost of about \$10.00 per acre he harvested a crop of five times the yield of the adjacent field. He cleared about 500 per cent on his investment in Sulphur, of which a goodly part remained in the soil for the next year's crop.

Every pound of sulphur in the "TORO" BRAND conforms to this screen test, as do all the other materials used in its preparation, and the rate of availability is just about right.

"TORO" BRAND is sold as Specially Prepared Agricultural Sulphur, and contains besides pure refined flour sulphur other selected ingredients representing in value at least twice the price of sulphur. These products are all obtained in conjunction with other important manufacturing processes, and it would be utterly impossible to sell this new mixture at the same price as our regular grade of agricultural sulphur if these ingredients had to be manufactured for this purpose only; 96% of the "TORO" BRAND is available as plant food.

Quantity to Apply: "TORO" BRAND is packed in 110 lb. sacks, and should be applied at the rate of one sack per acre. It may be sowed broadcast by hand or applied by an ordinary land-plaster sower, lime spreader or fertilizer drill. The important point is to get a uniform distribution.

Time to Apply: "TORO" BRAND should be worked into the soil in late fall and early spring in order to get the benefit of winter and early spring rains. However, in the irrigated districts it may be applied at any time of the year.

Price per sack of 110 lbs.: 1 sack lot \$6.00; 5 sack lot \$5.75; 10 sack lot \$5.50; Over 10 Sacks \$5.00. F. o. b. Los Angeles.

NO EXCUSE FOR INEFFICIENCY

UNIVERSITY OF CALIFORNIA
COLLEGE OF AGRICULTURE

STATION PUBLICATIONS AVAILABLE FOR FREE DISTRIBUTION

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Any of the above publications may be obtained by addressing

THE DIRECTOR, AGRICULTURAL EXPERIMENT STATION,
UNIVERSITY OF CALIFORNIA,
BERKELEY, CALIFORNIA.

On account of the increased cost of publishing, only bulletins and circulars of the most general interest will be mailed hereafter except upon request. You will be doing a great service if you show this list to your neighbor.

The College of Agriculture is conducting correspondence courses in agriculture. There is no fee. A circular describing the twenty-seven courses and an enrollment card will be sent upon request.

If you wish advice by letter or personal visitation, get in touch with your County Farm Advisor, or write to the Division of Agricultural Extension College of Agriculture, University of California, Berkeley.

NITROGEN BACTERIA



A Demonstration

See upper and lower picture.

At our demonstration garden, 1934 East 15th Street, we planted a row of corn 60 feet long.

Twenty feet from the end on the left was planted inoculated seed of Whip-poor-Will cowpeas. Twenty feet from the end on the right was planted cow peas not inoculated. At both ends and in the center, only corn was planted.

The density of growth shown in the picture is accounted for by the cowpeas and should be ignored, but notice the height of the corn.

It was planted too late to mature and complete the test.

Nitrogen-Fixing Bacterial.

The first Nitrogen Bacteria put up in a commercial way in the United States was made at Westchester, Pa., in 1903 by the Nitro-Culture Company. We were the first seed house to place an order. We offered it to our trade through our 1914 catalog.

We quote the following testimonial from our 1906 catalog by the late Geo. B. Reeve.

La Mirada, Cal., July 15, 1905.

Gentlemen:—

I take pleasure in stating that the Nitro-Culture I purchased from you worked wonders, and have no doubt that it more than doubled the crop and improved the quality wonderfully. I applied it to the growing alfalfa by scattering sand that had been dampened with the solution. Everybody should use it. I also tried it on beans with good results.

Yours truly, (Signed) Geo. B. Reeve.

W. H. Backus, Riverside, Farmers' Bulletin No. 214; "I found bacteria everywhere. Every spadeful, wherever test was made, showed bacteria on the fibrous roots, some at a depth of over 12 inches. I believe it is one of the best discoveries for the horticulturist yet found. I was not a believer at first in the field pea, and dug up vines every year for the last four years looking for bacteria. It took two or three years to get the bacteria in quantity. Now with the culture sent out, if it is properly made up and the seed inoculated, one can get the bacteria at one planting.

Our Advice

At that time we recommended the use of Bacteria on new soil not previously inoculated, and on poor sandy soil.

We advised against using it on heavy adobe soils or on alkaline soils. We are yet willing to stand back of that advice, for never has there been a year since 1905 that we have not had positive testimonials as to the merits of Nitrogen Bacteria.

Another feature of Bacteria. It is universally conceded that barley or any other crop is benefited following a bean crop. This was recognized before Nitrogen Bacteria was discovered and the rotation of beans is now systematically followed by many grain farmers wherever it is feasible to do so.

Yet again—

We have had many positive testimonials that barley planted with legumes (to be definite, with Vetch) will be benefited.

Our authority is Mr. Clemson of Owensmouth and our personal observation.

It is claimed that the grain cannot feed upon the nodule until it is decayed.

That may be true, but this decay may be taking place during the life of the plant.

At our demonstration plot we planted corn with beans and corn without beans. There seemed to be a decided advantage with the legume (see picture).

after that the difference was not so marked.

Of the many brands of Nitrogen Bacteria put on the market we adhere to the Westrobac because it is made on this coast, it is given to us fresh, and after three years of experience handling it we have every reason to believe it is as good as any and it is fresh from the laboratory.

READ

We believe that Nitrogen Bacteria has been applied where it was not needed which fact resulted in many disappointments. But we repeat what we said in 1905. "Plant inoculated legumes on new soil that has not previously been inoculated and on poor sandy soil, but not on heavy alkaline soil.

CHEAPER

Inoculation by good fresh commercial bacteria is vastly cheaper than hauling inoculated soil where a large acreage is involved or developing it by a prolonged tedious process when a small acreage is required.

Nitrogen Bacteria has had the positive endorsement of the United States Department of Agriculture for twenty years and needs no defense.

But apply it intelligently!

Our Catalog since 1904 has always recommended an intelligent application of Nitrogen Bacteria.

Do not apply the bacteria to the seed in the sunshine or expose to the sunshine to dry after mixing. Remember that strong sunshine kills every form of bacteria. The best results are obtained when planting is done in the early morning or late afternoon or on cloudy days. If you drill the seed in moist soil you can plant any time.

The prices on Westrobac now in effect are as follows:

per acre	Garden Size	\$.50
per acre less 5% cash discount	100 acres and under...	2.00
per acre less 10% cash discount	100 to 200 acres.....	2.00
	200 acres and over...	2.00

This culture is bred in San Francisco laboratories especially for California soils. We do not put out any culture over thirty days old. It is our contention that the best results are only obtainable through the use of fresh, virile culture.

We are breeding the best commercial nitrogen culture on the market today and we are in no way competing with cheap Eastern cultures. In selling Westrobac, we are selling to our customers the very best.

Immediately upon reading this page consult us with regard to your requirements for the season that you may place your order for delivery about your time of planting. Fresh bacteria will then be made to your order at the time required.



The Same Row of Corn Eight Weeks Later

On the right, notice a wind-break of Elephant Grass five months old.

Soil Builders

How Science Benefits Agriculture

Your Soil Fertility Will Be Improved by Proper Crop Rotation

The Following Lines Are Copied From Our 1908 Catalog:

"The sowing of nitrogen gathering plants for green manuring has become so popular because of the excellent results obtained and because of its cheapness as a fertilizer that its use is almost universal; not only for orchards, but for fields particularly where melons and potatoes are to be planted.

"The best nitrogen gathering crops for fall planting are the Winter Vetch, Blue Pea, Burr Clover, and Foenugreek, and Broad Windsor Beans; for spring planting Whip-poor-will, Blackeye and Soy Beans. The best time to plow under is when the plant has finished blooming."

"If your land is sloping, you need a cover crop to prevent eroding during the rainy season.

"If your land is lumpy and dry, lacking life, it needs humus and nitrogen.

"If your soil is sandy and fails to retain moisture, it lacks humus and nitrogen.

"If your soil is of clay and bakes and crusts readily, it needs humus and nitrogen."

The enormous acreage now planted to Legumes is evidence that our advice was good and has been heeded beyond all expectation. At that time neither *Melilotus alba* nor *indica* were recognized except as weeds.

We renew the advice and predict that the next ten years will experience as much increased planting as did the last ten years because green manuring and the growing of legumes is now a necessary adjunct to agriculture.

History

Gleaned from our old catalogs

It is only within the present generation that the building up of the soil assumed a real scientific phase of agriculture. The "run-down farms of New England" and the "impoverished lands of the west" was the warning cry only thirty-five years ago. In the east there was insufficient manure, therefore chemical fertilizer was applied; these acted as a stimulating tonic with only a one-crop benefit. Even with the application of these fertilizers the land continued to grow more impoverished.

In the west the manure was actually wasted and burned until the soil became so "run-down" that the owners of the land were "starved out."

California Leads

Only twenty-five years ago California orchardists considered it a necessity to regularly apply from fifty to one hundred dollars worth of chemical fertilizer per acre in their groves. Some growers, particularly in walnut groves, planted rye; the nitrogen-gathering legume was not yet a thing of common knowledge. From the year 1896 the Canadian pea was being planted with increasing acreage each year until Southern California alone used as much as sixty carloads in 1903. From this time on legumes were recognized as soil builders, and fertilizers as a tonic to growing vegetation. In 1906 we imported some winter vetch which was first planted in the orange grove of Dr. Monckton at Highgrove during the month of October; it was so satisfactory that the doctor ordered enough to plant ten acres but insisted that he have it in time for August planting. This was done and the result was so far ahead of Canadian Peas that it required only a few years until the winter vetch was the popular cover crop. During the years of 1908 and 1909 considerable Foenugreek was planted and proved satisfactory in heavy soil but impossible on the foothill soil where the humus was most needed. Although a good soil renovator it is no longer used in Southern California.

As early as 1910 *Melilotus indica* was receiving some consideration. The seed was of no value and could be obtained at any grain mill for the hauling. At Tempe, Arizona, as much as ten carloads lay on a dump, the accumulation of several years, and no seed house catalogued it earlier than 1914. The scarcity of vetch at this time no doubt hastened the popularity of *Melilotus indica*. This is likely to remain popular for green manuring because it is an exceptionally rich soil renovator. It has no value other than for green manuring. Within another year, or possibly two, *Melilotus indica* may be superseded by purple vetch for citrus orchards because the purple vetch will add more humus and nitrogen in a shorter period and at a time just suited for citrus growers. Purple vetch will not be offered largely until next season due to the scarcity of seed. We are growing an ample supply for next season.

Adding Fertility to the Soil and Not Impoverishing It
In my opinion anyone who succeeds in growing a legume bountifully on the land is a great benefactor, not only to the State, but to the Nation as a whole. Adding fertility to the soil, and not impoverishing it, should be the bywords of the next century, particularly in California and the Southern States. There is no better way of doing this than by the use of legumes.—Prof. P. B. Kennedy, in charge of Grass and Forage Plant Investigations, University of California.

Soil Renovators for Winter Crop

Melilotus alba and *Melilotus indica*

Scarcely more than ten years have passed since these two valuable clovers were considered as weeds to be despised. Their value is incalculable because they are supplying the deficiency in stable manure, giving better results with less expense.

Melilotus alba

For information concerning *Melilotus alba* (Sweet Clover) write United States Department of Agriculture, Washington, D. C., for Farmers' Bulletins Nos. 797 and 820.



(Sweet Clover) (*Bokhara*)

Melilotus alba

See Forage Plants Page 69

Culture I have come to the conclusion that, except on sandy soils, it is better to broadcast the seed than to drill it. This is especially true where there is alkali. Sweet-clover seed should be very close to the surface. A light harrowing or dragging with a light brush drag, will mix the seed with the soil sufficiently for germination. It is better, too, to sow the seed in the fall and let the rains bring it up. It gets a better start that way in alkali soil.

"Sweet clover grows faster than alfalfa. I had lots of Bermuda in the field and was afraid to irrigate until it was apparent that the clover was suffering from drouth. Soon after irrigating I found the clover choking out the Bermuda. I would have done better had I irrigated sooner. I had sowed barley with the sweet clover and took off a cutting of barley and sweet-clover hay. Beginning in October, I pastured 100 head of cattle on the clover. It has a bitter 'whang,' but the stock took to it and did well, although I think some other roughage should go with it. For hay the clover should be cut when 20 to 24 inches high, and when so cut it makes an elegant, leafy, palatable hay.

"Last year I took off two cuttings and let the third go to seed. CLARENCE JENNINGS, Clearwater, Cal."

Melilotus alba is being recognized more and more each season as a valuable soil renovator. Because of its large and extensive root system penetrating deep into hard sub-soil, and there decaying, permits moisture to enter and break up the hard-pan that plowing may become deeper and more thorough. These roots have gathered nitrogen and add much humus, all of which is essential to building up new or run-down soil.

Melilotus has other uses in soil renovating; it will grow in alkali soil and reclaim it. It will eradicate Bermuda and Johnson Grasses; therefore, if you have any land that will be benefited by *Melilotus alba* by all means plant it.

Mr. F. H. Bixby, president of the California Cattleman's Assn. stated that beet land on which the yield had fallen to six tons per acre was raised to yield twenty tons per acre by plowing under a crop of *Melilotus alba*. By all means use it.

See page 69. How valuable it is as a forage plant.

SOIL BUILDER FOR WINTER CROP Continued

For information concerning *Melilotus indica*, write University of California, College of Agriculture, Berkeley, Cal., or Circular 136.

Melilotus indica Was introduced by us in 1909, has now become recognized as the legume best adapted for green manuring in the orchards of California, because it may be planted late in the fall after all crops have been harvested, will grow all winter with only the season's rainfall.

It prevents erosion during the rainy season, is easily plowed under, is richer as a fertilizer and if allowed to stand until July will prevent much of the June drop.

Melilotus indica is the best legume with which to build up your soil during the rainy season for the summer crop to follow, particularly potatoes and melons. Write for price.

Read what Mr. L. B. Doan of Burbank tells that four acres planted to potatoes without fertilizing, he harvested forty tons per acre. He sowed *melilotus* on this four acres during September. Plowed it under in March and ten days after plowing he again planted potatoes and harvested 105 tons per acre.

June Drop

"Citrus groves in the Riverside and Redlands sections which have not been well fertilized and cared for as to cover crops, and which have not for any reason been kept tight up to the very best condition constantly as to soil moisture, have lost considerably from the June drop. Those groves which have had the care have heavy crops and will need considerable thinning."

"One orange grower showed one part of his grove where he turned under a heavy green crop of *melilotus indica* last year, and where a lighter cover crop was grown this year. He had been able to hold the water and keep a much readier moisture condition in this soil than where the green manure was not used last year. Also, the plant food and humus were more abundant and the supply more constant than in the other sections of his grove.

"He did not use any commercial fertilizer this season at all where the 'green manure' was used. In the other sections where the drop of fruit is so bad, he used commercial fertilizer, but did not have the humus from a green manure crop to help hold this fertilizer."

Vetch For many years was considered the best legume for planting in orchards during the rainy season. It is only because *Melilotus indica* is a little hardier that vetch is now second place for that purpose; but science has discovered a new use for vetch. It is true that oats have long been planted together with vetch for the purpose of supporting the vetch that it may be easy to harvest. Now the new discovery is that vetch may be planted with oats, wheat, rye and barley in order that the grain will be fertilized by the nitrogen gathered at the roots of the vetch and greatly increasing your crop of grain, or if grown for hay it doubles the yield. Twenty to thirty pounds of grain sown with twenty pounds of vetch per acre will yield more grain than sixty pounds of grain per acre if sown by itself.

Per lb. 25c postpaid. Write for quantity price.

Burr Clover The native Clover, and one of the best nitrogen-gathering crops and very satisfactory for orchards. There is an increasing demand for Burr Clover, and the seed is very scarce and hard to obtain. It is the very best cover crop for poor or dry land, as it needs but little moisture. If your grazing land lacks native grasses, plant Burr Clover; it re-seeds itself, starting to grow with the first rain, and continues growing far into the dry season.

Broad Windsor Bean Sometimes called Horse Beans, grows upright on a single stem bearing a profusion of large well filled pods. The roots are enormously productive of nitrogen. It will withstand 28° temperature; therefore, may be planted as late as September for best results as a winter cover crop. Per lb. 25c postpaid. (Write for quantity price.)

Mr. E. H. Mann of Oneals says, "The Broad Windsor Bean in my trial last year proved so much better than anything else that I have tried, that it seems it is just what I have been looking for the last seven years to grow on poor inter-wet but summer-dry soil."

Canadian Field Pea On account of the scarcity of seed during the period of the war because of its value for human food the Canadian Pea has little used for green manuring but necessity has again brought it into use. It fills a place as nothing else will do. When it is too late to plant Vetch or *Melilotus* plant Canadian Peas.

It may be planted in January and yet be plowed under in time for planting a summer crop. If your summer crop like melons and potatoes are not harvested until November plant Canadian Peas.

Neither is the Canadian Pea inferior to other cover crops when planted at the right time. The right time is from September until February and on any kind of soil.

Notice—do not plant just before a rain nor irrigate before they are well above the ground and established. If the soil is too wet after planting the seed will rot.

Soil Renovators for Summer Growing

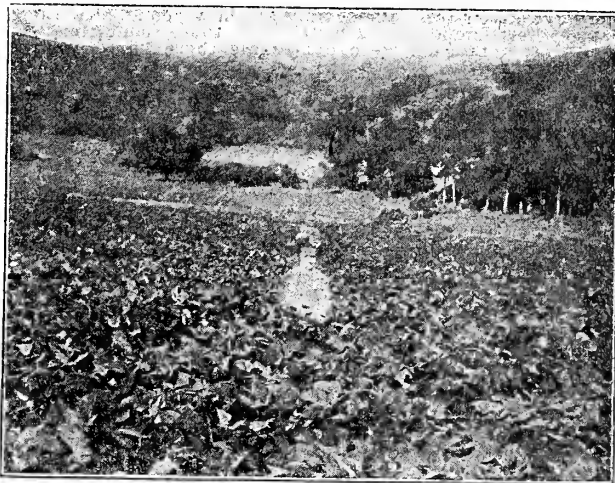
By Dr. P. B. Kennedy

In Charge of Forage Crop Investigations
University of California

Many farmers and stockmen are thinking about summer forage and wondering what would be a good crop to plant. To all such, we recommend the cow pea, a known legume with an established reputation for good behavior. Some of this plant's performances may be briefly summarized as follows:

- (1) It will grow on practically all kinds of soils, whether sandy or clay, poor or fertile.
- (2) It is of the easiest culture.
- (3) It has a big, strong, deep root-system, well supplied with large nitrogen gathering nodules.
- (4) It revels in summer heat, and is extremely drought-resistant.
- (5) It grows very rapidly, shading the soil from excessive heat, and leaving no room for noxious weeds.
- (6) It greatly benefits the succeeding crop by the accumulation of nitrogen in the soil.
- (7) It leaves the soil in fine physical condition for the fall planting of grain or other winter crop.
- (8) It produces an abundance of highly nutritious pods and leaves in a few months.
- (9) It may be made into hay or ensilage, or pastured; the seeds may be used for stock feed or human consumption.

Velvet Beans This bean has been fairly tried out in this section and found unsatisfactory. Therefore, pursuant to our policy of offering nothing we cannot recommend we have discontinued handling the Velvet Bean.



Whip-poor-will Cow peas for green manuring in the foothills, to be followed by garden peas, then potatoes.

Whip-poor-will This is the cow pea that has proven satisfactory for the entire southwest whether grown for pasture, silo or green manuring to enrich the soil for any subsequent crop. It is cheap manure and insures a big crop.

We first catalogued this cow pea in 1898. For more than twenty years constant use, the Whip-poor-will has only emphasized its all round value for luxuriant growth and tonnage of rich green pasture. Plant any time from April 1st until September 1st. (1 lb. 30c postpaid). Write for quantity price.

R. S. Thompson of Highland and Farm Advisor Robert W. Hodgson were called upon to discuss the subject of summer cover crops, both agreeing that the best general summer cover crop for green-manure purposes is the whip-poor-will cow pea. Mr. Thompson stated that the use of two cover crops a year for seven years has brought the organic matter content of his soil up to more than twice that of the virgin soil.

Peanuts A valuable soil renovator to sow in young orchards as a pay crop until the orchard comes into bearing. See page 42.

Soy Beans These are wonderfully valuable as a soil crop because of their nitrogen gathering propensities. For green manuring they should be plowed under when the pods are set. (Per lb. 30c postpaid). Write for quantity price.

Grasses

Write to us for our Bulletin No. 120

Forage For Range and Ranch

Aggeler & Musser Seed Company have given much importance to the department of grasses and have issued a 32-page bulletin on the subject. Owing to limited space in this catalog there are few illustrations under this subject but you are requested to write to us for our bulletin 120 which has twenty-eight illustrations from photographs taken at our demonstration plot. You are invited to see this demonstration at the rear of our warehouse, 1934 East Fifteenth Street—one block east of Alameda.

MR. CATTLEMAN, READ THIS

There is scarcely a ranger in the Southwest who has not at some time been greatly inconvenienced and endured much loss from lack of feed following a season of light rainfall.

These periodical losses we believe can be reduced to a minimum by co-operation on the part of cattlemen working together to improve the range by a systematic elimination of the undesirable vegetation, encouraging that which is good and introducing new vegetation by planting seeds of grasses that are known to thrive under similar conditions in other parts of the country and from other parts of the world.

For more than a score of years Aggeler & Musser Seed Company have, by selection and adaptation, given to the Southwest the best class of vegetables produced anywhere in the world, thereby contributing much to the upbuilding of this great empire.

Our latest organized effort to be of a substantial benefit to the Great Southwest is to assist the stockmen to find some valuable forage plants that will endure each and every condition that exists on the vast ranges of the desert and mountains, that they may be covered with grasses that will maintain great herds of stock.

The war has brought about a realization of the enormous waste of resources that passed unnoticed or, if noticed, little heed was given them.

One great source of waste exists in the barren condition of what are called desert lands; unirrigated lands, hill sides, swamp lands, alkali soils, and many other conditions.

We have given this much study and have concluded there is somewhere good grass suited to these conditions so that if sufficient seed were obtainable these barren places could be made to support countless herds of cattle, goats and sheep.

After several years of application to this subject we have found a number of grasses and millets that are now growing on ranges and in places such as we have described.

If you are interested in maintaining a good range, write the Department of Agriculture, Washington, D. C. Ask for Bulletin No. 791 and No. 772, the latter entitled "The Genera of Grasses of the United States," with special reference to the economic species by A. S. Hitchcock, Systematic Agrostologist.

By a careful study of the various agricultural bulletins, both Federal and State, and of the valuable work contributed by Prof. P. B. Kennedy of the University of California, together with our demonstration of grasses, seed of which was gathered from all parts of the world, we have much encouragement, believing that by the same system of selection and adaptation that met with success in the vegetable line, will succeed in the betterment of our range. It is too big a job for the individual; your co-operation is essential.

MR. DAIRYMAN AND STOCKMAN, READ THIS

You want the best as well as the most economical feed you can obtain upon a limited acreage. To get this you want the crops that will give you the best quality and greatest tonnage for your silo. You also want the pasture that will give you best quality and quantity extending over the longest season. You also want the crops best suited to your soil and climatic conditions.

We have given much attention to your requirements and we are sure you will find in this Bulletin something suited to your purpose. We also invite you to see our demonstration referred to on page 2.

POULTRYMEN

To the small stock breeder and poultryman, you will find in the subject of grasses just as much of interest to you as to the large breeder. Read it carefully.

HOW TO PLANT SMALL GRASS SEED

GETTING A STAND BY THE CORRUGATED SYSTEM

Many stockmen have been deprived of valuable pasture for grazing because of the almost insurmountable difficulty to sow fine grass seeds and get a good stand.

Mr. Renfrew, who has 320 acres of Rhodes Grass growing at Niland on the heaviest kind of alkaline soil, situated on the border of the Salton Sea, kindly offers a satisfactory solution which we will try to explain.

Plow and thoroughly pulverize the soil, make as level as possible and grade it to a fall of 12 inches to the thousand feet. Sow the seed broadcast both east and west and again north and south. After the seed has been sown drag the field in straight lines from the higher toward the lower side with an ordinary drag, having nailed to the bottom, three feet apart, pieces of 4x4 beveled at the forward end. This makes small irrigating ditches. This is called the corrugating system. Allow water to flow slowly and continually through the ditches each day until the seed has sprouted and the grass well established, after which time apply the water only when needed.

NAPIER OR ELEPHANT GRASS

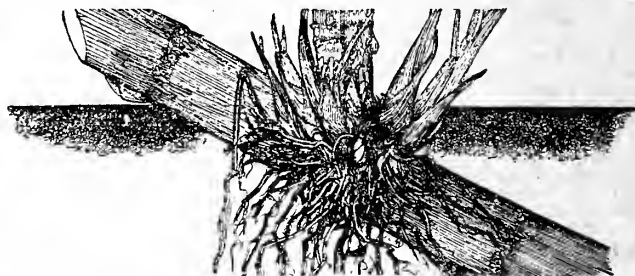
(*Pennisetum purpureum*)

(See our demonstration, 1934 E 15th St.)

Napier grass is a rank growing cane-like perennial. It grows to a height of from 8 to 12 feet or more, depending upon the amount of moisture and fertility of the soil. The plants stool extensively, forming clumps with many leafy stalks. Under favorable conditions and where the plants are not crowded, as many as seventy-five or even one hundred or more stalks may be produced by a single plant. The stalks or canes are erect growing and leafy. Prior to seeding many fine branches are produced from the leaf axils of the main stems. Hence it is possible for a single cane to yield as many as ten or more seed heads.

The best time for planting dormant joints in the open field is in March, or if the ground is cold and there is yet danger of frost better wait until April or May.

Within two or three weeks these dormant joints will sprout and root freely. These are offered as rooted sprouts. These sprouts will within eight or ten weeks grow twenty or more sprouts forming a clump that may be divided so that each sprout will have some roots. These are offered as divided crowns. There is practically no risk planting



The Right Way to Plant Napier Joints

them as 100 per cent will grow if given sufficient moisture.

The supply of divided crowns is limited. Because of the time and labor that is required to produce them it is reasonable that the price should be higher.

Where frost may not appear before November 1st, it is safe enough to plant dormant joints or rooted sprouts during August, but after September 1st we should advise the planting of divided crowns.

When you receive your joints that have been several days in transit, put them in fresh water for at least twenty-four hours, and should you not have time to plant them at once, let them remain in the water a week or even longer, but change to fresh water about every third day. They will root and sprout in the water.

After you have grown your own cuttings in sufficient quantities for field growing, we advise the African way of planting them, viz.: put the canes through a corn cutting machine, then spread them broadcast over well prepared ground, and disk or plow them under, and irrigate. Or they may be dropped in rows and planted as potatoes. Where irrigation and cultivation is as necessary as it is here, this way should be given preference. It would be a great saving of labor to lay whole canes in the furrows and plow them under, but not too deeply, two inches is about the proper depth where moisture is sufficient.

Single eye cuttings are planted with very little difficulty. The operation of preparing it provides a sharp joint at the lower end of the cutting; and this is simply thrust obliquely into the ground covering the joint to a depth of 2 or 3 inches. With canes in good condition and other factors favorable, both roots and sprouts will be sent out from the single joint and a good vigorous plant soon established.

One joint planted during April will grow as many as twenty or more sprouts that may be separated July 1st, and planted separately, so that by October 1st the original joint may be multiplied by 400. We advise that no subdivision be made after October 1st but let the crown remain undisturbed until the following April when each one will again produce twenty or more divisions besides many joints. Thus one joint within twelve months will produce more than 8000 plants. This is a conservative estimate.

For field pasture or browsing we recommend planting two feet apart in rows three feet apart.

For frequent cutting we advise planting twelve inches apart each way; thus one plant to each square foot will quickly fill the place solidly with succulent green feed that may be pastured or cut frequently for hay or green feed for chickens, rabbits, goats or the family cow.

In a discussion of this grass as found in a state of nature in Tropical Africa the author says:

"It occurs along watercourses and in marshy depressions, but also enters the bush and forest where open spaces afford sufficient light. In rich marsh land it attains a height of 21 feet, while in drier soils it only grows 6 feet high."

GRASSES--Continued

Napier Grass "The Napier Grass joints you sent me last April all sprouted and I must have at least ten times that number now (August 5th) planted out from the above. M. M. DOWSELT, Honolulu."

During the past year Napier grass has received considerable advertisement. In some cases overenthusiasm has led to error and exaggeration and the impression has become more or less prevalent that this grass will produce very large crops on practically any type of land and that it requires little or no cultivation. This belief is based upon a misapprehension. Plantings made during the past year indicate that results will vary directly with the fertility of the soil, and the amount of moisture. Its habit of growth is like millet and is about as easily eradicated as kafir corn. It grows very rapidly and may be cut when 3 or 4 feet high, supplying a heavy yield of green feed or hay. In palatability, Napier Grass is not excelled by any similar non-leguminous feed. When cut at the height of 3 or 4 feet, the stubble is in a tender growing condition. This tends to promote a quick and vigorous growth and insures a maximum number of good cuttings during the growing season, yielding about 3 tons or more of dry hay per acre each cutting, and it has been known to produce as much as 30 tons of green feed per acre in 30 days' growth from two-year-old roots. Napier Grass can be cut as many times per year as alfalfa and will produce several times as much good feed each cutting, if given the same conditions. Napier Grass seems especially suited as a green feed for dairy animals, as its high content of protein and its decidedly palatable nature render it valuable for green feed.

Napier Grass should be cut while young and succulent. This is not only important in encouraging subsequent growth but it also insures a green feed of the highest quality. As the stalks advance towards maturity they tend to become hard and woody and much of it will be refused by stock. In New South Wales this grass is claimed to make a splendid quality of hay if cut when 3 or 4 feet high and properly cured.

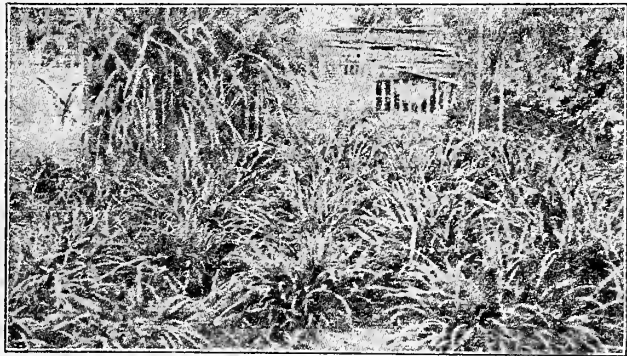
It is used extensively for silage, but always with some coarser forage. It is too succulent to be siloed without something to offset this condition.

From our observation of Napier, we believe that the best purpose to which it can be used is in the manner of a permanent pasture for browsing. When well established it will endure our winters, and with irrigation could be pastured throughout the summer and late fall. Cattle cannot destroy it. If browsed clean it will quickly recover. We believe as a browsing pasture, Napier is at its best.

Table comparing composition of green Napier grass with Corn and Sorghum. Taken from Bulletin 153, Florida Experiment Station:

Nutrients	Corn Percent	Sorghum Percent	Napier Percent
Water	78.1	75.1	65.84
Ash	1.2	1.4	2.68
Protein	1.9	1.5	3.58
Carbohydrates	13.0	14.0	14.13
Fat .....	.6	1.0	.53
Fiber	5.2	7.0	13.24

	Price Per Doz.	100 Postpaid	500 Postpaid	1000 Postpaid
Dormant Joints	\$.75	\$4.00	\$12.00	\$20.00
Rooted Sprouts	1.00	5.00	18.00	30.00
Divided Crowns	1.25	6.00	24.00	40.00



Napier Grass cut every ten days from June until November to feed the Chickens and Goats

GUINEA GRASS (PANICUM MAXIMUM)

We have but little information concerning this grass. Mr. Nichols of Beaumont, Texas, is our authority for saying it is an excellent permanent pasture relished by all stock.

Our demonstration shows it growing stems emanating from the crown at the ground and growing six feet high with abundant foliage and a seed panicle two feet higher. It is perennial and is as hardy as Napier.

The variety we offer is the highland or Indian Guinea, highly prized by stockmen of South America because the cattle quickly grow fat when they eat this Indian Guinea.

We have no seed but it grows readily from root divisions, which we offer at \$1.00 per dozen, postpaid, to anyone wishing to experiment with it.

RHODES GRASS

(CHLORIS GAYANA)

Write Department of Agriculture, Washington, D. C.)
Ask for Farmers' Bulletin No. 1648

Another year of experience with Rhodes Grass has added much to its popularity. It might be claiming too much to say that for a permanent pasture field it excels alfalfa, but it is no exaggeration to say it has a wider usefulness, because it will thrive on soil too alkaline for alfalfa. It will endure more drouth, more pasturing, more neglect, and will support as many head of stock per acre.

The following extract is from the U. S. Department of Agriculture Bulletin 1648:

Rhodes Grass was first cultivated because of its pasture value. It bears trampling well, recovers quickly after it is eaten down, and is relished by all kinds of live stock. In pastures favorably located, Rhodes Grass will support about two steers to the acre for 9 to 10 months and double that number during the more favorable parts of the year. The quality of hay made from Rhodes Grass is superior to that of most other grasses in that it contains a larger proportion of leaves, while the stems are slender, tender, and sweet, so that the hay is eaten with very little waste. It retains its color well in drying, therefore making an attractive bale for market.

Mr. McArthur of this city planted twenty acres near Holtville in Imperial Valley, on soil that was white with alkali. He is very enthusiastic concerning it. He says it is the most valuable grass that has ever come to Southern California. There is no longer any excuse for waste places; every acre of alkali soil may now be converted into valuable grazing land.

The following was copied from the Orchard & Farm, contributed by Dr. P. B. Kennedy (Grass and Forage Plant Investigation), University of California:

"Rhodes Grass hay is sweet and tender, and well liked by all classes of stock. It has an attractive appearance and lends itself admirably to baling for market. One to two tons per acre would be considered a poor yield, and might be expected on poor soils with insufficient irrigation, while on good soils with ample irrigation and a long season, eight tons per acre may be reasonably expected. The grass grows very rapidly during the warm summer, thirty days being sufficient to produce a cutting, but as the season advances and the mean temperature becomes lower, the growth becomes less rapid.

"Perhaps the best way to utilize Rhodes Grass is to make two cuttings of hay and then pasture for the remainder of the season. Continuous grazing is not to be recommended, although the plant withstands pasturing well. We have not as yet determined the carrying capacity of Rhodes Grass for California conditions, but the reports from other states are really remarkable. A very conservative estimate would be three cows per acre for eight months.

"Since California must from now on produce more forage under intensive cultivation we believe this to be one of the grasses that will help to solve the livestock problem.

"Experience with feeding Rhodes Grass in Imperial Valley has been very gratifying, and it is believed that it will be a valuable addition to the agricultural and cattle products of that rich territory.

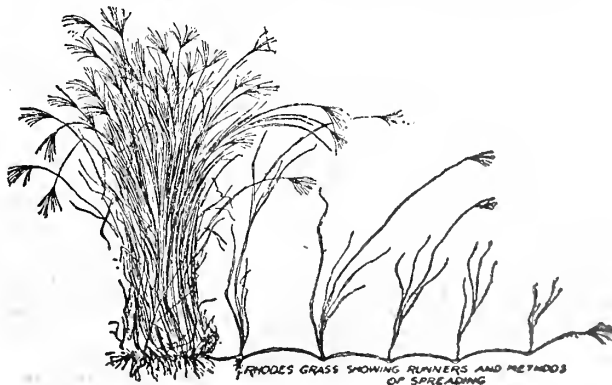
Rhodes grass does not grow underground sprouts like Johnson or Bermuda grass, but sends runners over the surface like strawberries. It is easily eradicated.

Rhodes Grass will drive out Bermuda and other weeds because of its dense growth. It is easily eradicated by being plowed once and let stand for sixty or ninety days. It adds humus to the soil.

The best time to plant Rhodes Grass is from March 1st to September 1st.

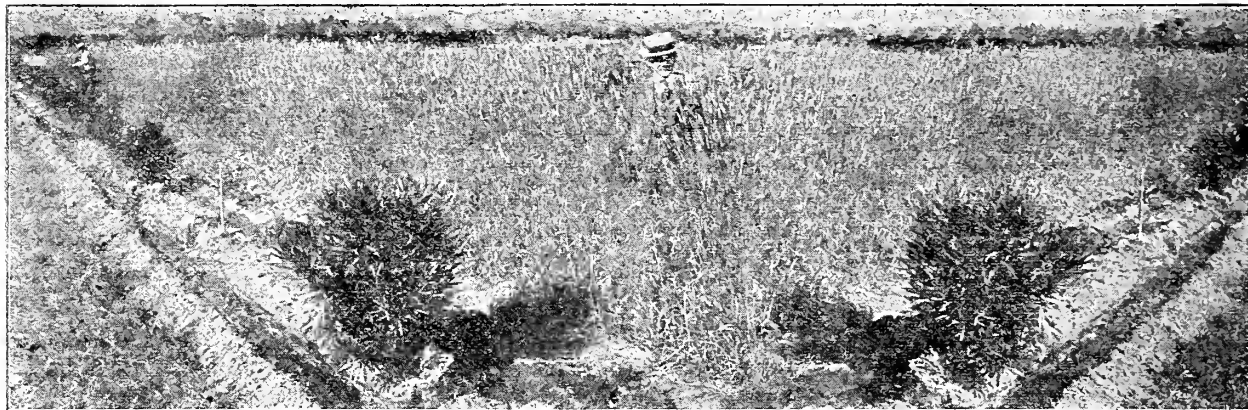
The soil must be well prepared by thorough pulverizing, then corrugated (see page 5). Broadcast 14 pounds of seed per acre, going over the field twice, once north and south and east and west, sowing 7 pounds each way. Keep the soil continually moistened until the grass is established. It grows so rapidly that the first cutting may be had the sixth week. Do not pasture until after the second cutting.

Price per lb. \$1.00 postpaid. Write for quantity price.



Harding Grass

(*Phalaris stenoptera*.)



Harding Grass Grown at Altadena, Cal., by J. D. Thomson

Write University of California, Berkeley, California, and ask for "New Grasses for California—*Phalaris stenoptera* Hack." by P. B. Kennedy.

We are indebted to Prof. P. B. Kennedy for this description of this new and valuable grass:

The origin of Harding grass is obscure and, strange to say, it has not been found wild in any country. It is a perennial and withstands the climatic conditions in the great central valleys of California.

Experiments at the University Farm at Davis have proven that it will maintain itself year after year, and produce abundant and palatable pasturage or hay without irrigation. It furnishes succulent feed during the winter season when alfalfa is dormant.

The seed germinates quickly and readily with the first fall rains, and even though the very fine hair-like seedlings are exposed to severe frosts they are not injured. It grows rapidly and produces large clumps the first season.

The foliage is devoid of hairy coverings of any kind, and is free from rust, thus tending toward a clean hay and palatable pasturage. During the first season the flower-bearing stems are comparatively few and grow only about two feet high. During the second season a dense leafy mass three feet high is produced with the flower-bearing stems four to six feet high, depending on the rainfall.

Feeding experiments with calves, in co-operation with Dr. Woll at the University Farm at Davis, show that the winter growth of the grass is very much liked and that it compares very favorably with alfalfa as a feed. All classes of stock are partial to it.

Small trial pots at Berkeley have also done well, although the growth is much slower.

P. B. KENNEDY

Grass and Forage Plant Investigations,
University of California.

What Prof. F. W. Woll Says of It

University Farm,
Davis, California, 6-2-19.

Prof. P. B. Kennedy,
Hilgard Hall,
Berkeley, California.

My dear Prof. Kennedy:

The sample of Harding Grass cut last December on the 1-acre plot at the University Farm has been analyzed at Prof. Jaffa's Laboratory with the following results:

Composition of Harding Grass

Water	20.00%
Protein	15.71%
Fat (ether extract)	4.80%
Fibre	14.92%
Nitrogen-free extract	34.45%
Ash	10.00%

The sample was cut after a period of severe freezes in this season, which, however, did not seem to hurt the grass appreciably. The grass was 6 to 12 inches high at this time. Cuttings taken during the growing season when the grass grew to a height of 3 to 4 feet or more on this plot would doubtless show a lower percentage of protein and a higher fibre content, but the results of the analysis of the sample submitted show, beyond a doubt, that this grass is exceptionally high in protein, fat and mineral matter, and suggests that it will prove a most valuable addition to the list of California forage plants. Feeding trials with the grass conducted with stock at the University Farm showed that it is very palatable to dairy cows, sheep and goats.

I shall watch with great interest further developments in introducing this grass, and making its merits known to the stockmen of the State. It would appear to me that it is a very remarkably promising plant that may prove of inestimable value to our stock interests.

Very truly yours,

(Signature) F. W. WOLL

Prof. of Animal Nutrition.

THE BEST WINTER GRASS KNOWN

For cold districts *Phalaris* is the grass. It seems to thrive in the cold, and grows an inch a day or more in the depth of winter. Thoroughly perennial, and makes a valuable and permanent pasture. Can also be made into hay. Plant from March to June at the rate of 2 to 3 pounds per acre. Can also be established from roots planted from May to August, about 18,000, eighteen inches apart, being required to cover an acre.

J. D. THOMSON,
Altadena.

Mr. Thomson says also that after cutting his Harding Grass for seed the plot lay dormant until September; then, without any irrigation, it started to grow, and before rainfall made considerable growth.

Dear Sirs:

Regarding the Harding Grass (*Phalaris stenoptera*) I wish I could get more. Having a few seeds in 1918 I planted them in 6 times, beginning October 12, the last planting being on March 25th. I am well pleased with the results, although it does not grow very high in our granite soil, it is the only grass I know of that will pay here. Having received a little of the seed from Professor P. B. Kennedy, in charge of Foreign Plants Investigation, I planted it on November 12, two years ago. Then followed heavy cold rains for a week and then heavy frosts for five days. Yet the seed germinated readily, and the young, needle-like plants came out and through all right and kept growing all winter, not being injured in the least. The lowest temperature was 18 plus, and evidently the plant can endure more severe colds.

This grass is a winter-growing plant, but it will grow all summer if given a little water, and what is more, it will remain green through the summer with a rainfall of 14 inches or more.

A. LA FORGE,
New Castle, Calif.

Price (oz. 50c), (lb. \$3.50) postpaid.

Plants (dozen small crowns \$1.00 postpaid.)

Mr. Stockman: You may want to place a tank at a spring somewhere on your range and would like to know how large a tank you will need. The following table gives the capacity of a tank of a given size. Know the number of cattle you have and estimate that each head will require five gallons per day.

A tank 6 feet in diameter and 8 feet deep holds 1976 gallons and would keep 100 cattle four days, 25 cattle 15 days.

The next size, 8x8, holds 200 gallons.

Tanks of the diameters given below hold the following number of gallons for each foot in depth:

A tank 6 feet in diameter holds.....	247 gals. per ft.
A tank 8 feet in diameter holds.....	375 gals. per ft.
A tank 9 feet in diameter holds.....	475 gals. per ft.
A tank 10 feet in diameter holds.....	586 gals. per ft.
A tank 11 feet in diameter holds.....	710 gals. per ft.
A tank 13 feet in diameter holds.....	992 gals. per ft.
A tank 15 feet in diameter holds.....	1321 gals. per ft.
A tank 20 feet in diameter holds.....	2349 gals. per ft.
A tank 25 feet in diameter holds.....	3670 gals. per ft.
A tank 30 feet in diameter holds.....	5080 gals. per ft.

Figured on the above basis, a cistern 15 feet in diameter and 10 feet high would hold 13,210 gallons. A cistern 20 feet in diameter and 15 feet high would hold 35,235 gallons.

GRASSES--Continued

PARA GRASS

(Panicum babinode)

It is the native pasture grass on the meadows and bottom lands of Mexico. Cattle fatten upon it with no other feed. Dr. Wm. R. Livingston of Oxnard, California, writes: "I have many hundreds of acres of Para Grass in Mexico, where we consider it the most valuable forage plant. I have worked 200 mules at a time, feeding them freshly cut Para, as roughage with some corn. I know of no other green plant that will sustain working animals; the amount of forage per acre is enormous."

Excellent for swamp or overflow lands or with irrigation—any kind of soil that has sufficient moisture—endures much alkali—roots survive the cold winter and months of drouth—follage is dormant in winter, but without irrigation will grow three or four feet high in the spring until checked by drouth—with irrigation grows rampantly—may be cut and dried for hay every four weeks—it is relished by all stock—it does not seed in this climate—is propagated by transplanting joints or stems or by spreading green grass on prepared ground and disked in.

A grower in Imperial whose name we do not have, planted it on some low moist land lying along the ditch. He says he cut more feed per acre from Para than from alfalfa. We state decidedly you can have nothing better than Para in its proper place.

There is no seed, therefore we offer stems at 75 cents per 100; \$5.00 per 1000. It multiplies readily. One hundred stems carefully cultivated for one season would prove sufficient for a good start. Cuttings should be planted during April, May and June. It is about as hardy as Napier.

ALFILARIA

(Erodium cicutarium)

Alfilaria or "filaree" has been and still is a life saver for the California ranges. It grows wild without any attention in all classes and conditions of soil except swamps and excessive alkali. Soon after the first heavy fall rains have saturated the ground the "filaree" begins to make its appearance. It is good pasturage at all stages of its growth even when mature and dried up. In nutritive qualities it compares favorably with alfalfa and live stock of all kinds fatten on it readily. It is hardy even where the winter temperature reaches zero or below. Little or no preparation of the soil required. It attains perfection where introduced in Texas.

Sow 6 lbs. of seed per acre and mix with sand to aid in distribution.

Price per lb. \$100 postpaid. Write for quantity price.

AUSTRALIAN SALT BUSH

(Atriplex semibaccata)

Cardinal points: For range near the coast or interior lowlands where fogs are of frequent occurrence—any kind of soil—endures much alkali—thrives with a minimum of moisture—very succulent during winter, spring and early summer, when it is relished by all stock—becomes parched by heat in late summer, then it is less palatable to stock, but they will thrive if forced by hunger to eat it—it seeds freely. Requires no preparation of soil for seeding. Cannot cut and dry as hay—has one tap root—easily eradicated.

Per lb. \$1.00 postpaid. Write for quantity price.

Write us for Bulletin 120.

ORCHARD GRASS

(Dactylis glomerata)

Mr. Adolph Moritzson, a grass and seed expert, says of it: "Fifty years ago the Bank's Peninsula of New Zealand was a wilderness. Nothing worth while grew there. The country was worth nothing as a grazing land for cattle or sheep. Then came the grass that made New Zealand. Cocksfoot was sown on this ground, and in a few years the region became one of the best grazing districts in New Zealand."

Cocksfoot will grow well under a wide variety of conditions. It is not a particularly drouth resistant grass, but it readily adapts itself to nearly all types of soils. For forty years it has thrived on the rocky and hilly lands of New Zealand. Where other grasses died out it produced luxuriant crops of grass. It is a stooling plant. It seeds freely and any bare spots on the ground are soon seeded by the plant itself. According to Mr. Moritzson, the plants grow three to five feet high. It is not easily killed out by close grazing as many pasture and ranch grasses are. But it does require an average amount of rainfall. Five or six weeks of very dry weather would not kill the crop, he thinks, but that number of months would probably be too much for the plant.

The feeding value of Cocksfoot is very high. Cattle and sheep are shinned considerable distances into the Bank's Peninsula districts to be fattened. They get no feed except cocksfoot, yet they bring as good prices on the market as grain-fed animals. This is a good testimony for the grass.

This grass does well sown either with or without other grasses. It is frequently sown in such pasture mixtures as white clover, red clover and rye grass. If sown alone, 25 or 30 pounds of the Cocksfoot seed will insure a good stand of grass.

Keep the cattle away from the grass until it is well established. Otherwise the young plants may be eaten so close and trampled so much that they will die. After the grass once makes a good growth the danger of this is slight.

Per lb. 60c postpaid. Write for quantity price.

SMILO GRASS

(Oryzopsis miliacea) Many Flowered Millet



Smilo Grass

(Recommended by the University of California). It is a hardy evergreen perennial, drought-resistant bunch grass that thrives on dry hills among rocks and brush and is a wonderful producer when planted in good soil, but must have sufficient moisture to get good root system before the dry season. It also thrives under trees.

Smilo seed originally came from Southern Europe, where it is considered one of the best forage grasses.

Smilo will not become a pest, as it has fine fibrous roots which penetrate very deep, but is easily cultivated out.

Smilo grass does not do well planted thick. Plant in drills about 14 inches, using from 1/4 to 1/2 pound of seed per acre. Thin to one every 14 inches in row. When sown broadcast, sow very thin and hoe out the surplus roots.

Do not plant seed over 1/4 inch deep. Better sow on top of ground and harrow lightly. When planted deep we have known Smilo to be in the ground two years, but as soon as brought to the surface and got sufficient moisture it came up and made a good stand.

Smilo grass is a slow grower the first year until it gets a good strong root system (unless irrigated), when it is a good producer and will stand many months without moisture.

When possible plant seed before fall rains, during September and October, so it may get a good root system before the cold weather and will stand the following dry season.

In a small way plant seed in a seed bed, using the same care you would in planting a lawn. At the beginning of the rainy season transplant to permanent place, setting the roots straight down with the bulb about one inch below the surface.

We have a limited amount of seed which will be sent postpaid. (Packet, 50c; one pound, \$3.25; 10 pounds, \$26.00.)

Good, well rooted, divided crowns: 75c per 100 postpaid; \$4.00 per 1000 f.o.b. here.

DALLAS GRASS

(Paspalum dilatatum)

This grass should be established on pastures.

Grows on any kind of soil—endures some alkali—excellent for permanent pasture on marsh or mesa—grows winter and summer with moisture—excellent for hay—may be cut every six weeks—becomes dormant with drouth but revives with less moisture than any other grass, yet will survive if submerged for several weeks—stools and seeds freely. It has been tried and proven in this section to be one of the best of grasses for permanent pasture in meadow or on mesa where it must depend solely upon the season's rains.

The seed takes root among the weeds and devil grass, choking out everything in its way. The dense tufts of grass make a thick sod capable of supporting the cattle on marshy land. The stock relish it fully as well as alfalfa. It is as easy to eradicate as Timothy or as any other bunch grass. Ten pounds is sufficient to sow one acre broadcast.

The second year's growth of Paspalum on our trial ground exceeds all the low bent grasses for quick recovery after drouth.

Per lb. 75c postpaid. Write for quantity price.

PERENNIAL RYE GRASS

(Lolium perenne)

Also called Australian Rye. Probably the oldest cultivated grass in existence, having been in cultivation previous to 1677, and is yet grown for pasture probably as extensively as any other grass. It quickly covers the ground with a dense mat of foliage ten inches deep with seed stems twenty inches high. It is perennial, but endures seldom beyond the third year. It is an ideal crop for rotation.

Sow in the fall with barley, oats, wheat or alfalfa, to be pastured. It is excellent fattening cattle.

Sow 40 pounds per acre. Per lb. 50c postpaid.

BERMUDA GRASS

(Cynodon dactylon)

Write us for Bulletin 120

GRASSES--Continued

RUSSIAN BROME GRASS

(Bromus inermis)

Bromus inermis is one of our hardiest perennial grasses; so amount of cold will kill it. It withstands the severest drought, and water may stand on it for weeks. It will grow on any kind of soil.

The following information is from Mr. Jas. C. Knollin, Editor, Orchard and Farm: "During 1914 and '15 I had charge of a large farm in Wyandotte county, (Eastern) Kansas, near Kansas City.

"There is a period of about two months, when feed in the pasture is usually very scarce. One spring we seeded a small patch in an old orchard, on a dry hill-side to Brome Grass. This little patch supported five milch cows all during the driest summer we had experienced in a long while, when there wasn't a spear of green grass to be found elsewhere in the large pasture. The cows seemed to be very fond of it and continued to browse it after the rains had freshened up the other grasses. It made a living patch of green on the barren hill-side all summer, and the cows seemed to be unable to keep it entirely eaten down."

It requires twenty pounds of seed per acre.

Price per lb. 75c postpaid.

Russian Brome Grass is essentially a pasture grass, but it also makes good hay. All kinds of stock are fond of it, and no other grass, unless it be orchard grass, will furnish grazing for so large a portion of the year. Its producing and feeding value for hay is about equal to that of Timothy.

It keeps alive under conditions that would destroy many other grasses and it will then grow vigorously when moisture is brought to it. It can be made to render excellent service in states where the rainfall is not more than 12 to 15 inches.

ITALIAN RYE GRASS

(Lolium italicum)

Arrives earlier at maturity than Perennial and produces a large amount of nutritious herbage. Its duration being but two or three years, it is not adapted for permanent pastures yet highly valuable for rotation of crops. It is specially adapted for sowing in autumn with oats, barley, rye, or clover, as a catch-crop for fattening stock. Sow 30 pounds per acre. Per lb. 35c postpaid.

RED TOP

(Agrostis vulgaris)

Write us for Bulletin 120

SUDAN

Write College of Agriculture, Berkeley, Cal., for Bulletin No. 277

Sudan Grass Has made good and has become more popular each year. Cardinal points: Not particular as to soil—endures much alkali—an annual—planted during April first cutting in sixty days may yield four tons of dry hay per acre and three to four tons may be cut each thirty days until October.

Twelve pounds of seed is required to plant an acre in order to produce hay of fine quality.

The seed may be planted with a Superior beet drill or other drill with extra plate, or broadcast.

Sudan Grass thrives with excessive moisture and endures extreme drought. The foregoing points are not all the best features of this grass. In the months of August and September, when all other grass is dry, then is the time that Sudan is most valuable for fall pasture for cattle and hogs. We believe it will solve the hay proposition as nothing else can do in this climate.

Sudan Grass is ideal for growing with the Whip-poor-will Cow Peas. It is a good thing to plant in an old alfalfa field where there is a poor stand. The stem is stiff enough to support the vines, and the mixture makes a better balanced ration for the stock. It is a good silage.

Per lb. 40c postpaid. Write for quantity price.

A GOOD FORAGE

Dwarf Essex Rape

Pasture for Hogs, Sheep and Poultry

There is a need and a place for an extra quick growing green forage crop for use any time during fall, winter and spring and our Dwarf Essex Rape fills that need exactly.

Rape can never become a pest as it belongs to the same general family as the turnip and rutabaga and when planted under favorable conditions of soil and season, it makes an immense crop of green forage, juicy and succulent, and often at a time of year when little green feed is available.

35 cents per pound, postpaid. In quantity by express or freight, not prepaid, 20 cents per pound.

Barley as a Winter Pasture

Several other plants furnish good winter pasture, but none are so valuable as Barley. It affords grazing earlier, more abundantly. It recovers more rapidly after being grazed down. It is more relished by stock and more wholesome. It stands up so that stock can eat it with less dirt or other objectionable matter, and it is never affected by rust.

Sown in September it affords good grazing until May, but if the stock are taken off in March, a good crop of grain may be harvested.

For this purpose sow 100 pounds per acre and irrigate if needed.

Barley sown in an alfalfa field during October will make good pasture during the winter when alfalfa is dormant, or it may be grown for hay without injury to the alfalfa.

ALFALFA

Alfalfa Lucerne. This may well be called the King of Forage Plants; all stock relish it; may be grown in nearly every state in the Union and it is essential to the best interests of every rancher, small or large. To the "Little Lander" with a few chickens and rabbits, as well as to the large rancher with hundreds of cattle, horses and hogs. It may be cut and fed green; judicious grazing does not injure it. If mixed with sorghum in the silo, it improves the ensilage and as dry hay it is unexcelled. It is leguminous and, therefore, a soil renovator.

Cultivation is very simple, the essentials being well drained soil, good grading, thorough subsoiling, thorough watering and judicious harrowing; also proper fertilizing, especially on new ground.

Mr. C. Sebelius of Gardena, California, planted six acres to smooth Peruvian Alfalfa, and cut it six times the first year selling this crop for \$500. The second year he got \$120 for the first cutting and \$185 for the second-cutting.

Drilling Alfalfa in rows and cultivating it seems like a waste of acreage and time, but Mr. E. B. Ames of Coachella Valley has demonstrated that it pays both as a hay crop and for seed.

Mr. Ames plants it two feet apart in rows 28 inches apart; it is irrigated and cultivated after each cutting. He gets two tons per acre each time it is cut for hay.

He allows it to seed each year, threshing more than the largest yields by the old method. The writer can testify that the branches bearing seed are full of large well filled pods from stem to tip. While by the old way, only a few pods ripen at the tips.

Evidently Mr. Ames is pursuing the proper method.

Certified Alfalfa Seed Pursuant to our policy of protecting the customers wherever possible we have gone to the expense of having our fields of Hairy and Smooth Peruvian inspected by the County Agricultural Agent. Every sack of seed is sealed by him with a tag which certifies it to be the variety indicated on the tag. No matter where you buy it, look for the tag on every sack you buy. Write for quantity price.

Chilian or Common This variety has proven so entirely satisfactory to everyone for more than forty years that nothing better was looked for, and is indeed now so thoroughly satisfactory that many will hesitate to believe that any variety of alfalfa can be better, therefore we have an ample supply of the Chilian seed. (lb. 70c) postpaid; (10 lbs. 55c per lb.) f. o. b. here.

Smooth Peruvian Introduced by us a few years ago. Our claim to superiority over the Chilian was in the fact that it was hardier, yielding one more cutting each year and more each cutting.

Being hollow stemmed it is softer and eaten entirely by stock. The leaves adhere to the stem after it is dry, adding greatly to its merit.

All of this claims held good and the smooth Peruvian rapidly grew in popularity and is now preferred by many satisfied growers. (lb. 80c) postpaid; (10 lbs. 65c, per lb.) f. o. b. here.

W. A. Mason, Turlock: "Last year I got 100 lbs. of Smooth Peruvian Alfalfa seed from you and sowed it on the 7th of February on 5 1/2 acres of sub-irrigated land and cut it 5 times and got 38 1/2 tons of fine hay. The last 3 cuttings going over 10 tons to the cutting. It was full of leaves to the bottom of stems. I sold it for \$15.00 per ton in the shock. Very good for the first year."

Mr. C. J. Lemoyne, Lankershim, California, had 4 1/2 acres smooth Peruvian Alfalfa planted February 22, 1919. He cut this six times in 1919, last cutting December 14th, and he harvested 28 tons of hay. Will be ready to cut February 20th, 1920.

Hairy Peruvian Recommended by the Department of Agriculture as being more hardy than the smooth Peruvian and because it is more hardy, it has a longer growing season and will yield more tonnage per acre per year, and on that account is more valuable in some localities than in others. (lb. 85c) postpaid; (10 lbs. 70c per lb.) f. o. b. here.

Alsike or Swedish Clover This is one of the hardiest perennial and does not winter kill. It will do better on moist land than any other variety of clover, and is suitable for either hay or pasture. When sown with other grasses, it forms a thick undergrowth and greatly increases the yield. Write for quantity price. (Price per lb. 90c postpaid.)

Lespedeza or Japanese Clover This clover has proven unsatisfactory in California and the Southwest generally. We refrain from offering in this catalog anything of doubtful value.

BURR CLOVER

A companion crop with Alfalfa for the range. It thrives best on adobe soil, enduring considerable alkali. It starts growing as soon as the fall rains set in and with a minimum of rainfall such as we have in "dry years" it grows luxuriantly, bearing enormously of seed pods. When mature the whole plant dries, forming a mat of good cured forage relished by all stock.

SWEET CLOVER

Melilotus Alba
(See page 62)

Melilotus alba This is a valuable addition to the farm as a forage crop. When quite young, it may be pastured or cut and cured for hay. This should be done just before the bloom appears. It is harder than alfalfa, more drouth-resistant, and better for renovating the soil. It may be cut twice the first season and three or four times the second season, yielding 2500 to 3000 pounds of hay each cutting. It is as easy as alfalfa to eradicate, is biennial. On account of its hardness to resist extreme cold, heat and drouth it is grown largely in the middle west for pasture. It is highly recommended by the department of agriculture.

21 Reasons for Planting *Melilotus alba*

1. It is not a weed.
 2. Like alfalfa it is rich in protein.
 3. Will not bloat cattle or sheep.
 4. Equal to alfalfa for pasture.
 5. Is a great milk producer.
 6. Furnishes early spring pasture.
 7. Contains more protein than red clover.
 8. Fits well in the crop rotation.
 9. Is a great soil enriching crop.
 10. Better than any of the common clovers as a green manure crop.
 11. Is a valuable plant for honey bees.
 12. Prepares the soil for alfalfa.
 13. Roots are soft and give no trouble in plowing.
 14. Roots being tender become inoculated more readily than alfalfa.
 15. Never damages cultivated crop.
 16. Its roots decay rapidly, adding much nitrogen and humus to the soil.
 17. Grows and will produce a crop in all parts of the United States.
 18. Seeds freely in both humid and dry sections.
 19. Sweet clover prevents erosion.
 20. Will grow under conditions where clover and alfalfa fail:
 - (a) On land too low, too wet, or too alkaline for alfalfa
 - (b) On land too hard and compact for alfalfa;
 - (c) On soil too poor for alfalfa, especially where there is lime.
 21. It is immune to nematodes.
- Now read again these twenty-one reasons for planting *Melilotus Alba*, and see wherein it suits your particular case.

A Few Don'ts

- Don't plow deep.
- Don't sow deep.
- Don't cut low in mowing—at least 6 inches high.
- Don't have subsoil loose.
- Don't be afraid to sow sweet clover.

Melilotus alba for the Range

Mr. Stockman, as soon as you read this send for some seed of this Sweet Clover and just to get a start sow at the rate of one pound per acre all over your range. On any kind of soil. If not pastured too closely you will soon have a valuable range for your stock.



Sweet Clover on the Bixby Ranch

(From "The California Cattleman," October, 1920)

SWEET CLOVER (*Melilotus Alba*)

A Practical and Highly Successful Experiment

By Fred H. Bixby

President California Cattlemen's Association

Relative to the experiment that I have just been conducting with *Melilotus Alba*, or Sweet Clover, I am herewith giving you my experience.

In the southern part of the State a disease has been attacking the sugar beets to such an extent that in the last year or so many acres that were formerly planted to sugar beets have been withdrawn. This disease is known as nematode, commonly called by the farmers "Dry-rot." The beets grow nicely up to a certain point, and then completely dry up and die in a very short time.

Two years ago, because of the danger of this disease appearing on ground that had been weakened by continued planting to sugar beets, I decided to plant this weakened land to sweet clover, the principal aim being to restore its fertility.

In the early spring of 1918 we planted about 1200 acres to clover, in most cases plowing the land and making an exceptionally good seed bed.

After planting about 20 pounds of barley, we planted with a broadcast seeder 20 pounds of clover, harrowing twice.

Before planting the clover seed, we had it inoculated, and thought that we were doing the job in a fine, farmer-like manner.

We only got perhaps half a stand, and found the principal reason for this poor stand was because we buried the clover seed too deeply in the ground.

In the winter and spring of 1919, we disked all the clover land and planted about 10 pounds of inoculated clover seed per acre.

In the spring of 1920, we had what would be considered a 75 per cent stand of clover on this whole acreage.

About 50 per cent of this was cut from three to five times during the summer; the other 50 per cent was cut only once.

The half that was cut several times made exceptionally good hay, and I think I am safe in saying that the stock ate it as well as they would have eaten the ordinary alfalfa grown in this part of the country.

That which was only cut once grew to a height of ten feet, and the branches (as many as fifty from each root) became so hard and woody that we have been unable to cut it with a mower or anything else, and at the present writing I am at a loss to know just how we can handle this enormous growth and prepare it so that we can plow it under.

The roots of some of these plants are as large as your wrist, and the branches are the size of an ordinary buggy whip.

I had 600 head of steers in one field of 200 acres of this rank clover for approximately six weeks, and although the steers improved very much, you could hardly see that they had eaten any of the clover.

The enclosed photographs show some of the characteristics of the plant.

After having experimented with this clover for two years, I am of the following opinion:

- (1) It is as good a fattening feed as ordinary alfalfa;
- (2) It will never bloat an animal;
- (3) It will grow in ground that alfalfa will not grow in;
- (4) Four or five plants in a three-foot square indicate a very good stand. If irrigated, about one-third as much water as is necessary for alfalfa is needed. It is the greatest thing that I have found to bring back worn out land.

After the experiences during the last two years, I would formulate the following rules concerning the preparation of the soil, planting and harvesting the clover crop:

- (1) Don't plow the ground.
- (2) Use a disk and give the ground a very shallow disking as soon as possible after the first rain.
- (3) Sow 15 or 20 lbs. of barley per acre with a broadcast seeder.
- (4) Harrow twice.

(5) Inoculate your clover seed and plant about 15 lbs. per acre, either with a drill or with a grass seeder.

(6) Don't harrow after you plant the clover, but run over the ground with a horned-toad or cross-kiln roller.

The main trouble in planting sweet clover seed is that it gets too deep in the ground and will not come through. The seed should barely be covered, and in many cases seems to do better when it is not covered at all.

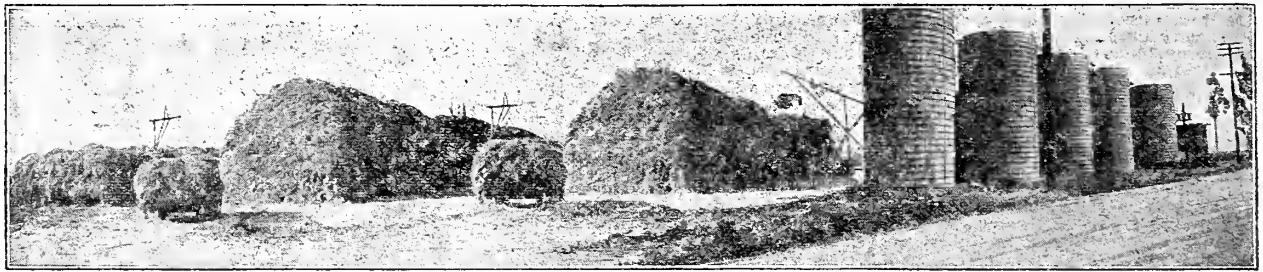
As soon as your barley gets to the dough stage or even only in the milk, cut it and keep on cutting it once every month or six weeks during the summer.

Do not disk or re-seed, but at the end of the second year plow your ground shallow, only deep enough to cover the clover that you are plowing under. After this remains in this condition for a month or six weeks, plow it again and prepare your seed bed for anything you wish to plant.

Don't under any circumstances ever allow your clover to grow over three feet high. Cure it and handle just as you would alfalfa.

The Silo

Write Department of Agriculture, Berkeley, Cal., for Circular No. 138, September, 1915, by Professor F. W. Woll; also Circular No. 173; also Bulletin No. 282, issued August, 1917.



At the Hansen Dairy, Lankershim, Cal

Write for our Bulletin 120

The silo has become one of the many big things for which California is famous. It has revolutionized farming with regard to forage crops. The silo has done much toward the betterment of the dairy and made possible the feeding of large herds of cattle.

The Silo A Big Money-saver. If you have ten or more head of stock, it will be profitable for you to have a silo. Therefore, if interested write at once to the University of California, College of Agriculture, Berkeley, California, for Circular No. 138 (Sept., 1915), entitled "The Silo in California." It is complete in its information and after reading it you have all the information you will need, and you will at once go about building a silo. Just the size you will require, and you will know about what it will cost. This circular tells you what crops are best and what proportion of water to add; what stage of maturity crops may be cut; in short, the information in the circular is so complete you cannot make any mistake, from the building of the silo to the time when the silage is ready to feed to the stock.

BEST CROPS FOR SILAGE

Indian corn heads the list as recommended by the Dept. of Agriculture. The varieties that exceed in tonnage yield per acre are: **Orange County Prolific, Branching Corn, Eureka Ensilage, Mexican June (Sacaton) and Hickory King.**

Mr. Geening of Norwalk says: "Twenty tons per acre would be a good average for 100 acres. There have been acre yields of as much as forty tons but that is too much to expect a large field to average."

MORE SILOS NEEDED

The directors of the Los Angeles County Farm Bureau adopted a project to increase the planting of forage crops, especially sorghum, in order that material may be available when it is planned to launch a campaign to increase the number of silos in the county. Silage has been shown to be a most efficient and economical feed, especially for dairy cattle, and in order to produce and conserve as much feed per acre as possible, a greatly increased number of silos is considered most important. While many kinds of green feed may be preserved in the silo, sorghum and ensilage corn are considered best in Los Angeles county.

Here are ten good reasons why a silo should be on every farm where livestock is kept:

1. The silo preserves the palatability and succulence of green crops for winter feeding.
2. It conserves the entire crop.
3. The silo increases the livestock capacity of the farm.
4. Silage can be fed in summer when pastures are shot.
5. Silage is relished by dairy and beef cattle and sheep.
6. It is digestible and aids in the digestion of other foods fed with it.
7. Silage reduces the cost of production of milk, beef and mutton.
8. It will increase the milk flow.
9. Silage promotes the health of the herd.

10. The silo provides an economical method for the storage of roughage.

WHAT SILAGE IS WORTH AS A FEED

One hundred sixty-five pound of corn silage will replace 145 pounds of shelled corn and 359 pounds of hay in producing 100 pounds of beef. These figures were arrived at as a result of eight years of feeding tests made at the Indiana experiment station, according to advices recently received at Minnesota University farm. With corn at \$1.75 silage is worth \$12.50 a ton.

No. of Cows	Pounds Required Daily	Size of Silo Diam. Feet	Size of Silo Height Feet	Cap. Tons
6	340	9	20	22
9	360	10	24	34
13	520	10	30	47
15	600	12	26	55
20	800	12	32	74
25	1000	12	38	94
30	1200	14	34	109
35	1400	14	38	128
40	1600	16	34	143
45	1800	16	38	167
50	2000	16	40	180

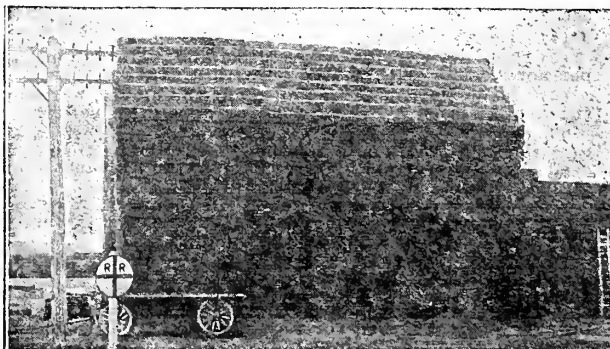
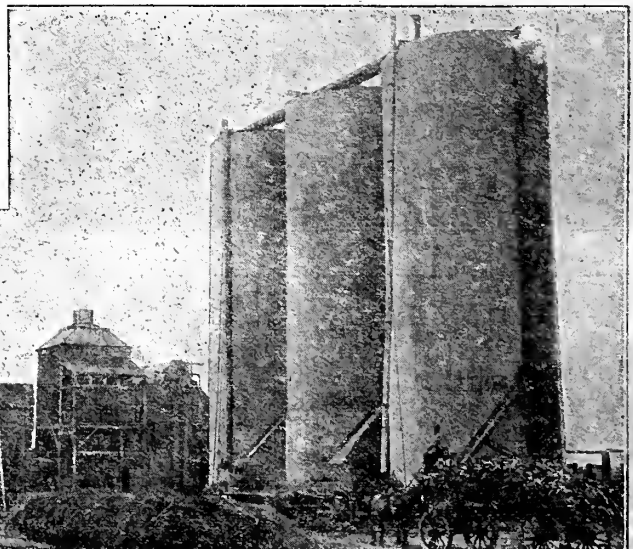
Based on 40 lbs. per cow a day.

One ton of hay requires 500 cubic feet of storage space, while one ton of silage requires only 50 cubic feet.

The best dairymen feed about forty pounds of ensilage, with two pounds each of bran and oil meal daily to each cow in order to secure the maximum milk production.

"Recently I was confined six weeks with a broken limb and it gave me the opportunity I have long coveted: time to read every word of your catalog. May I say it is equal to a course in agriculture. It contains more practical, concentrated information than I have found in many correspondence courses which I have taken. It's a real boon to agriculture."

Mrs. Constance de Pastor, Kern County, Cal."



At Mr. Greening's Place, Norwalk

A & M Field Corn

A NEW CONDITION

That Governs the Price of Seed Corn

Since the coming of the silo a new condition has come upon us. A readjustment must be made to keep down the high cost of corn. Before the silo, corn was valued according to the yield of grain and the various varieties were gauged from that point of view, but since the coming of the silo varieties are valued according to the tonnage of silo they will produce.

The silo has caused an enormous increase in acreage planted to corn, but a deplorable scarcity in the supply of corn either for seed or for food.

It is true the Southwest can import corn for feed but we should grow enough for both feed and silage. The farmer says: "I can grow silage and get more money per acre; I can buy my seed cheaper than I can raise it."

The result is a scarcity of seed corn, particularly those silage varieties which we cannot import.

Write for quantity price.

Branching Corn

Two ears on main stem and five branches with one ear on each branch

This new variety is undoubtedly one of the best for ensilage. It does not stool as other corn but branches from each joint. The branches stand erect like a cluster of corn stalks each branch bearing an ear of corn at the tip.

In a field of five acres, no stalk had less than two ears, many had seven and some eleven. About 50% of the entire field of corn was branching. The better the soil the more profusely it branched.

We are recommending this variety for the silo. (lb. 35c) (10 lbs. \$2.50) prepaid.

Mr. Clanton of Newark said: Lacking sufficient water for irrigation, the Branching corn gave best results.



Eureka Eusilage

Eureka Ensilage (White Dent)

This variety was first grown in this county six years ago and is yet a favorite for the silo. It is because of this fact it has in the past been difficult to get seed at a reasonable price, if at all. We have now guarded against this annual shortage of seed. The tonnage of silage per acre will average well above 20 and may yield 40 tons. Any claim above this is based upon individual acreage. (lb. 35c) (10 lbs. \$2.50) prepaid.

Orange County Prolific (White Dent)

This was discovered by us in the year 1910 in Orange Co. and first offered in our catalog in 1911. It was the pride of all real estate boomers for many years, and to this time no variety will exceed it in silage tons per acre. (lb. 35c) (10 lbs. \$2.50) prepaid.

Sweet Corn for Dairy Cows

For this purpose we offer Stowells Ever-green. It will grow more green feed than any other sweet corn. Seed is usually scarce and the price governed by the supply. Drill 40 pounds of seed per acre. If interested write for price.

You can grow a field of corn for silage and harvest the crop from thirty to forty days less time than required to mature grain, thereby releasing the ground for a fall crop. A very important phase to consider at planting time.

The Big Three

Orange County Prolific, Eureka Ensilage and Branching Corn.

Three varieties of corn are far ahead of others that they may well be classed as silage corn. They grow taller, have excess of foliage, produce more ears, and have thick stalks, all of which is ideal for the making of tonnage that goes to fill a silo.

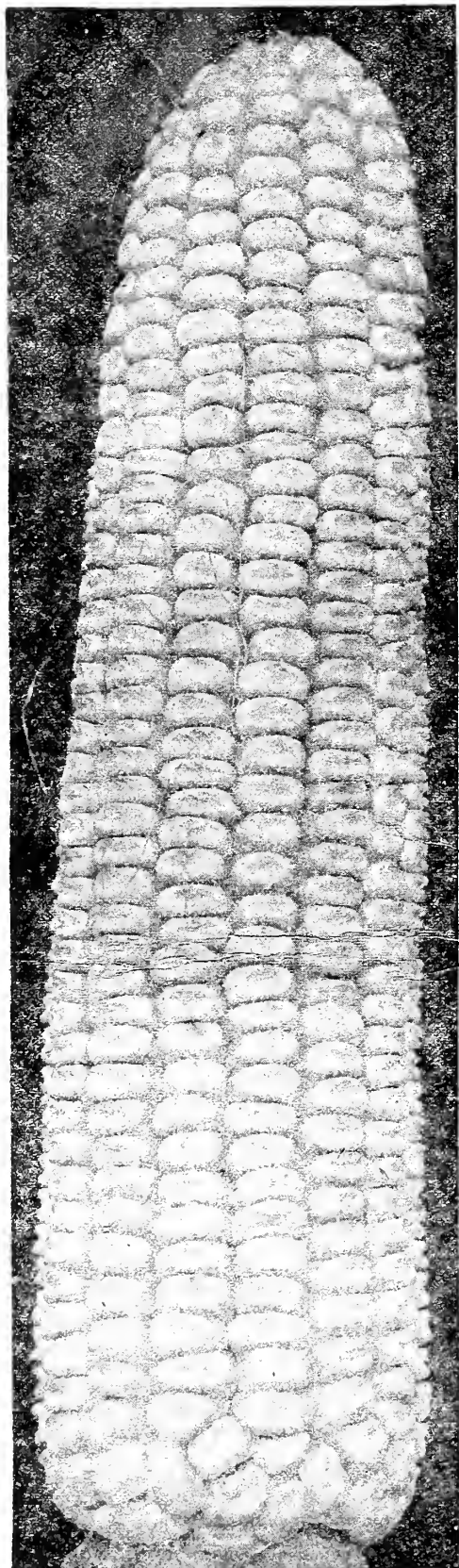
Our trial of Mexican June showed exceptionally good on rich soil. Our seed is of the saccaton strain, developed at the University of Arizona. It promises to be exceptionally good for light soil and in arid climate.



SOME CORN
Height 10 feet

Mexican June
Grown Near San Gabriel by
E. D. MacSweeney

A & M FIELD CORN--Continued



White Elephant

White Elephant (White Dent.) An excellent variety for both silage and grain and thoroughly adapted to climatic conditions in the corn growing sections of Kern and Inyo Counties. (Lb. 35c) (10 lbs. \$2.50) prepaid.

Acclimated Golden Beauty

(Yellow Dent. For a sure crop King Phillip Flint Corn leads. But if you want a yellow dent corn this acclimated Golden Beauty insures a first-class crop where other varieties fail. It is thoroughly adapted to Los Angeles and Orange Co. climatic conditions. Of six varieties grown in the garden section this one excelled. (lb. 35c) (10 lbs. \$2.50) prepaid.

CORN FOR GRAIN

We offer many sure and big yielders, but your selection should be governed by your local conditions. For dry farming, we recommend: Pride of the North, King of the Earliest, Mexican June and King Phillip.

For big yield where irrigation is available we recommend all the varieties listed here, with special stress upon the acclimated Golden Beauty for local planting and the White Elephant for Kern and Inyo Cos.

Do not overlook the fact that Orange Co. Prolific and Branching Corn are leaders in yield of grain as well as silage.

WHITE DENT

Branching, for grain	110 days
Orange County Prolific, for grain.....	110 days
Eureka Ensilage, for grain.....	120 days
Hickory King, for grain	110 days
Champion White Pearl, for grain	110 days
Iowa Silver Mine, for grain	110 days
Wisconsin White Dent, for grain	110 days
Red Cob Ensilage, for grain	100 days
Mexican June, for grain, dry farming.....	100 days
White Elephant, for grain	110 days

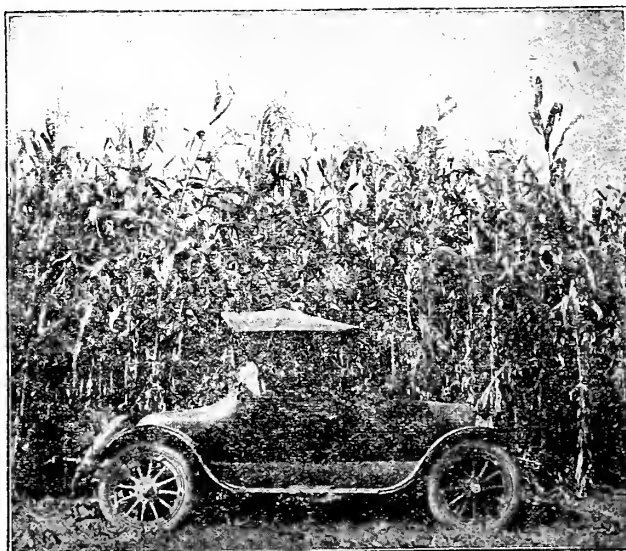
YELLOW DENT

Reids Yellow Dent, for grain	100 days
Golden Beauty, for grain	100 days
Minnesota King, for grain	100 days
Pride of the North, for grain, dry farming.....	90 days
King of the Earliest, for grain, dry farming.....	90 days
King Phillip Flint, for grain, dry farming.....	90 days

Mexican June The corn for the arid southwest. When the white man was a pioneer in Arizona and New Mexico, he tried to grow corn but failed. The country and climate were condemned; corn could not be grown, but thanks to the good work of the various state and federal experiment stations, we have the Mexican June. This has been bred up by years of selection from seed which has existed among the Indians from time antedating the Aztecs. Imperial Valley growers realized its merits ten years ago. In Arizona, New Mexico and Texas, it is now grown where no other variety will thrive.

Mr. Schultz, of Orange county, says: "A friend gave me a few ears of Mexican June Corn; I planted it on sandy soil, expecting to irrigate it, but could not do so. I thought it would die and did not even expect fodder, but see for yourself; good, big ears that would yield fully a ton of grain per acre. (lb. 25c) (10 lbs. \$2.00) prepaid.

About Corn.—More than 5,000,000 bushels of corn was produced in California in 1919, yet this is scarcely half enough to meet the local demand. This condition ought not exist because there is ample acreage where corn may be grown under irrigation, and near the Coast where it may be grown without irrigation. Where corn cannot be irrigated plant the "King of the Earliest" and "Mexican June."



Orange County Prolific

Sorghums for the Silo

SUDAN SORGHUM

THE WONDER FORAGE PLANT

The crop for the silo. With two cuttings it will yield 40 tons of silage per acre. Surely a boon to Dairymen and Stockmen.

This valuable forage plant first appeared during the summer of 1916 on the ranch of Mr. Benedict in Riverside County. Mr. Benedict realized he had something extraordinary; he therefore saved all the seed from this one plant and in 1917 grew a small plot that further convinced him and his neighbors that he had a wonderful forage plant. The seed from this plot was carefully harvested and in 1918 a field of ten acres was grown. This field by a roadside attracted the attention of persons who passed. It has been visited by government experts who have given favorable expression as to its merits. For want of more exact history we express the opinion that it is the result of cross pollenization between Amber Cane and Sudan Grass because it has the appearance of gigantic growth of Sudan and the seed is very similar to Amber Cane. It stools from ten to forty full sized stems the thickness of a thumb and smaller. When the main stems mature, separate branches grow from each joint bearing other seed-heads.

The stems are succulent and sweet, as saccharine cane, not dry as non-saccharine cane, therefore it is as good as sorghum for dairy cows. Stock will eat every particle of it and when shredded or cut for the silo it is ideal silage.

Our demonstration clearly indicates the Wonder Forage Plant will yield double the tonnage of any other sorghum. Five pounds of seed is sufficient to plant an acre.

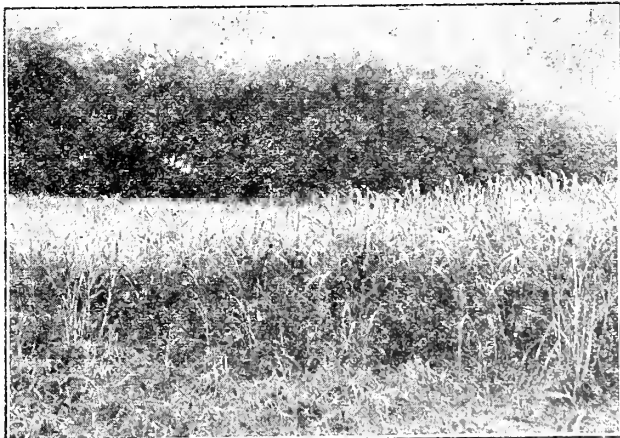
Dairymen, each year that you delay planting this **Wonder Forage Plant** (Sudan Sorghum) you are missing something worth while—either for the silo or for green forage. One acre of Sudan Sorghum is more valuable than three acres of Sudan Grass, both in quantity and in quality. One acre is equal to two acres of sweet sorghum. The latter can be cut but once, the former twice with equal tonnage. (To do this will require good soil and ample irrigation, but it will do it). It has less sugar content than sweet sorghum but must be classed as a saccharine. Do not waste another season by holding off. It is so much better than Sudan that there can be no comparison.

Read what Mr. McConnell of Lankershim says of it: Others say as much.

Mr. McConnell planted seed in June. August 15th he made the first cutting. It stood ten to twelve feet high, fully headed. The tops are panicle shaped and, because of the multitude of stools, it easily leads other varieties in quantity of grain, none of which is lost in harvesting, which was done with an alfalfa mower. About October 1st it will be ready for second cutting, which, he says, may be done with the same mower by raising the blade. Mr. McConnell says also that it is the ideal sorghum for the silo because it is sweeter than non-saccharine and has less sugar content than saccharine, therefore, it is less liable to ferment. Cows prefer the green stalks to alfalfa.

More of it would have been planted last season but the supply of seed was sold out early in the season.

JAPANESE SUGAR CANE



Japanese Sugar Cane

This is considered one of the most prolific of all sweet sorghums with the advantage of being a permanent source of supply. It produces no seed, but is propagated by planting joints like Napier

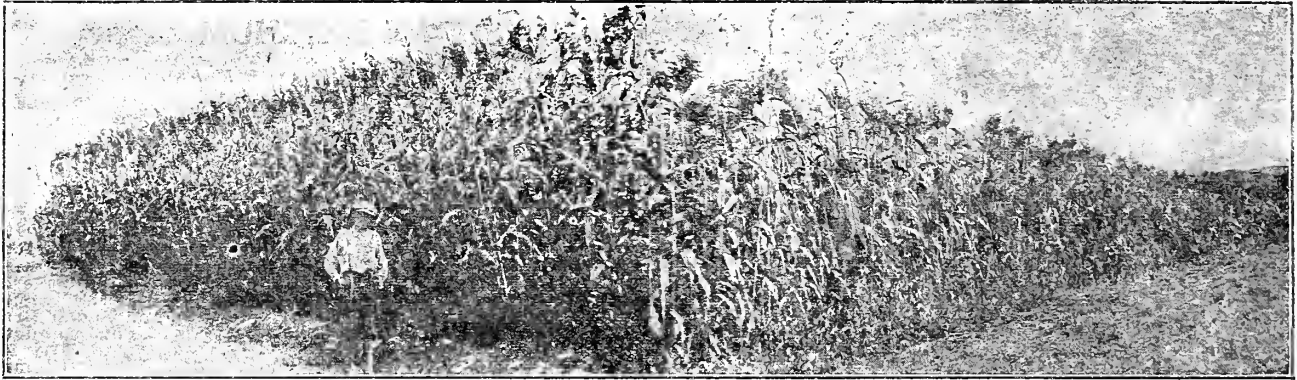
Price of Joints, Per Dozen, \$1.00 Postpaid

100 Joints, \$6.00 Postpaid

It survives from year to year in southern California. It will prove profitable for any dairy, large or small.

**A Plant Like This Twice a Season
Twelve to Fourteen Feet High
from one seed**

SORGHUM FOR THE SILO--Continued



Early Orange

Watts Brothers of Burbank Says the Orange Gives a Brighter Syrup and a Better Flavor

SACCHARINE SORGHUM OR CANE

It is usually planted in rows $3\frac{1}{2}$ feet apart, using from 5 to 8 pounds of seed per acre. Grows from 10 to 15 feet high.

This kind of Sorghum is distinguished from the Non-Saccharine because it is from these varieties that syrup is made.

Write College of Agriculture, University of California, Berkeley, California, ask for Circular No. 198. Concerning syrup from sorghum.

But these Sorghums are more generally grown for forage because they will thrive well with little moisture, but on good soil with irrigation will produce 20 to 30 tons of silage per acre.

Address: University of California, College of Agriculture, Berkeley, Cal. Ask for Circular No. 167, also Bulletin No. 292.

At our demonstration of Sorghums the Silver Tip out-classed all other varieties for tonnage of green fodder. Texas Seeded Ribbon Cane was next in line. It is more branching than others.

Silver Tip The Sorghum for syrup. Mr. McWilliams, a manufacturer of Sorghum syrup, residing near Norwalk, says: "The Silver Tip excels all other Sorghums in quantity and quality of syrup. A yield of 400 gallons per acre was the average obtained from my field. It will yield 20 tons of silage at one cutting. It is later in maturity than other varieties so that only the first cutting can be used for syrup."

(Per lb. 25c) postpaid. Write for quantity price.

Honey Sorghum This variety was only recently introduced into California and at once proved to be very desirable because of the large yield of grain as well as enormous growth of forage.

It is given special recommendation in the Farm Bureau Monthly and has proven highly satisfactory to all who grew it last year. (Per lb. 25c) postpaid. Write for quantity price.

Early Amber The Early Amber has been grown in California for more than thirty years and always proven entirely satisfactory. It grows twelve feet tall when allowed to mature but it stools to a wonderful extent when cut about every four weeks.

(Per lb. 25c) postpaid. Write for quantity price.

Early Orange Similar to the Amber except the color of seed which is lighter. (Per lb. 25c) postpaid. Write for quantity price.

Honey Sorghum

Texas Seeded Ribbon Cane Texas Seeded Ribbon Cane is one of the best crops that can be grown to use as ensilage on account of the enormous yield it makes per acre.

"Land is too valuable to get from 5 to 10 tons of silage when the same acres can yield 25 to 30 tons per acre with same expense. Others have received these results and any farmer can do the same." (Per lb. 25c) postpaid. Write for quantity price.

Red Top

Red Top Sorghum is a non-saccharine, especially good for silage. There has been some difficulty with the Honey Sorghum for silage purposes on account of souring due to the fact that it contains much sugar. The Red Top will not sour as quickly as the saccharine types.

(Per lb. 25c) postpaid. Write for quantity price.

According to past records and comparisons of yield of the different kinds of Sorghums is about as follows, figured on a basis of silage tons and not on a basis of the weight when cut in the fields:

Kansas Red Top.....	12 to 15 tons per acre
Amber Cane.....	8 to 10 tons per acre
Honey Sorghum.....	18 to 20 tons per acre
Silver Tip.....	20 or more tons per acre

If you need forage for your horses, cattle or hogs Sorghum planted about April 1st will furnish you the best feed in the shortest space of time. One-half acre will feed four head of stock all summer if only enough is cut each day for one day's need. In this way one can cut continuously all summer. As much as 40 tons may be cut from one acre.

It may yield three cuttings a season, but it should be wilted before feeding as it is liable to bloat. The sugar it contains is very fattening. Steers and hogs can be brought to prime condition with no other feed.

WHEN TO HARVEST SORGHUMS FOR SILAGE

Many farmers are growing sorghum for silage. The question of when to cut it is perplexing some. The experience of farmers who have grown this crop for silage purposes is that it should be fairly mature before cutting. The stalks may look rather dry but Sorghums should not be cut for silage until the seeds are hard. If cut too early the silage is apt to be acid and much inferior to silage cut at the right time.

READ ABOUT SUNFLOWERS

SUNFLOWERS INCREASE MILK FLOW IN DAIRY

Some time ago a rancher in one of the mountain valleys who was having more or less trouble in securing a crop suitable for silage, decided to try sunflowers.

With that end in view a few acres were planted. Before they had reached a stage suitable for this purpose he had run out of green feed and his milk flow was decreasing at an alarming rate. He then decided he would have sufficient late oats and vetch to fill his silo, so he tried feeding the cows green sunflowers. They took to them at once. In fact, care had to be taken to prevent overfeeding. The milk flow came back as good as it had been at any time that year.

Sunflowers are a regular crop on this ranch now, and it is claimed that they produce an unusual flow of milk. They are fed green, also used in the silo. The amount of this kind of feed produced on a small plot of ground is amazing. —California Department of Agriculture Bulletin.

The last few years in California have abundantly emphasized the necessity of providing winter feed for range stock, and after reviewing literature and experiments, we desire to recommend the use of sunflowers for silage where Indian corn and sorghum do not produce satisfactory yields. There are certain sections in California in the mountains, along the coast, and in the northern counties, where sorghums do not succeed and where sunflowers would do well. Dairymen in need of a satisfactory silage crop should give them a trial.—P. B. Kenedy, Grass and Forage Plant Investigations, University of California.



Red Top Sorghum

Non-Saccharine Sorghum for Grain and Forage

All prices are subject to market change.

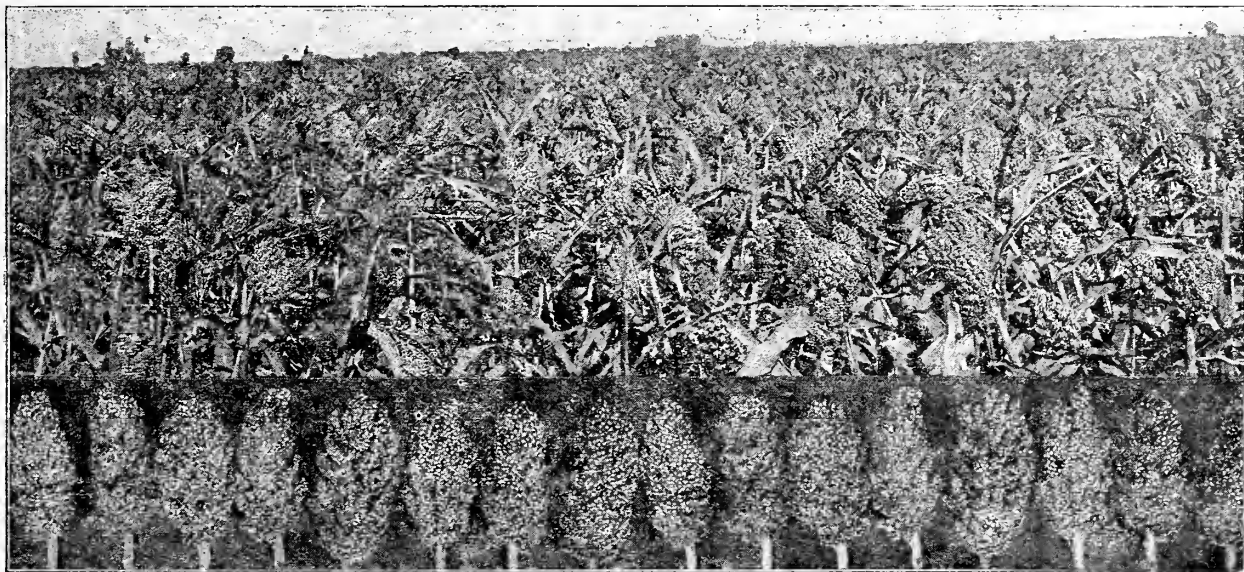
If larger quantities are wanted by mail send the necessary postage. See inside front cover page

Dwarf Milo Maize heads the list for grain, and Feterita a close second. These crops are given special mention because being drouth-resistant they grow very well in the southwest.

Non-Saccharine Sorghums follow in choice for silage with Dwarf Milo in the lead because of the enormous yield of grain adding much to the value of the silage. Feterita yields more tonnage but less nutritive value. These should be cut after the seed is hard, never when green.

For full information concerning Sorghums write College of Agriculture, University of California, Berkeley, California. Ask for Circulars No. 187 and 177. Also Bulletins No. 278 and 293. Also circular entitled: "Precaution Against Poisoning by Johnson Grass and Other Sorghums."

Write U. S. Department of Agriculture, Washington, D. C., for Bulletins No. 383, No. 698, No. 972, No. 827.



Actual Photograph Dwarf Milo Maize
6000 lbs. of grain per acre

Dwarf Milo Maize The King of all Sorghums for Grain. Is much preferred to the tall variety because it stools wonderfully and matures a large head of seed on each stool, producing 3500 pounds of grain per acre, and the stalk being shorter and having more foliage, makes it more desirable for fodder. Dairymen find that the cows will give more and richer milk when fed on it. It is the right crop to plant in young orchards because it will not shade the small trees.

We have Dwarf Milo Maize grown from pedigreed stock. For the past four years the heads were carefully selected in the field before harvesting. Now we have a strain that grows about four feet high and produces forty per cent more than it did three years ago under the same climatic and soil conditions.

It is highly recommended by the Stae Department of Agriculture for silage. (Per lb. 25c) postpaid.

Mr. W. W. Fletcher of Lindsay, California, writes: "I wish to state that the Dwarf Milo Maize I received from you last year yielded over 6000 lbs. of grain per acre; much more than you claimed for it."

SMUT

The sorghum, kafirs and related plants are frequently attacked by a fungus which causes the destruction of the kernel. This is known as kernel smut.

Since the disease is carried on the seed, seed treatment is an effective remedy. It is sufficient to immerse the seed for a few minutes in a solution of formaldehyde and water. The solution used is one pint or pound of formaline, or 40 per cent formaldehyde, in 30 gallons of water.

NOTICE

READ THIS

SCHROCK KAFIR Wonderful for Fodder and Grain
Mr. B. F. Taylor of Los Angeles called our attention to this wonderful addition to the saccharine sorghums. He says that he harvested about 6000 pounds of grain from approximately one acre; that is away ahead of anything else in that line both for grain and forage.

The stalks are green until frost, long after other sorghums have tried up. It excels as a pasture and makes excellent fodder. It will mature a crop of seed under conditions where other Sorghum will fail.

ITS GREAT MERITS

The stalks are sweet. Cattle eat it down to the roots. Horses gnaw it to the last piece. Stock will leave alfalfa for it. Stock prefers it to sweetest hav. Seldom yields less than 3000 lbs. per acre. Frequently yields as high as 6000 lbs. per acre. When planted early will produce two crops. It is of dwarf growing habit. Is very stalky. Very nutritious as a silage. Greater drought resister than Feterita. Matures with exceptional uniformity. Fields are remarkable for even growth. Branch heads keep coming up till frost. Grown from 3½ to 5 feet high. Very easy to handle

in harvesting. It never lodges or droops its heads. Better seed producer than any of the Sorghums. It is almost bird-proof; they will not destroy mature seed. Sow 10 lbs. per acre. (lb. 30c) (10 lbs. \$2.50) postpaid; (100 lbs. \$15.00) f. o. b. here.

What One "Big Rancher" Did in Imperial Valley

The 900-acre ranch of J. T. Latham furnishes one of the most interesting examples of tremendous production from new Imperial Valley lands. Small farmers have done equally as well in proportion, even before the time of present high market prices, as in the case of the accomplishment here described.

Mr. Latham bought 900 acres of unimproved bottom land in the north end of the Imperial Valley, paying \$112,800 for the tract. He had it cleared and placed under cultivation in February of 1917. Part of the land was not planted until April and June. The acreage was all planted to milo maize and alfalfa.

When Mr. Latham harvested his crop and marketed it in the fall he found that he had 9600 tons of hay and fodder mix, worth \$5 per ton. This was sold for a lump sum of \$48,000. There were 1680 tons of maize worth \$50 per ton. That brought \$84,000. Hence, before the end of the year 1917—in less than 10 months, Mr. Latham sold \$128,000 worth of grain and hay from the 960 acres which cost him \$112,800. That left him a surplus of \$15,200 which would, of course, pay all the expenses of running the ranch during that length of time and still leave him some pocket money!

Feterita Of the many non-saccharine sorghums offered in this book—none have proven more popular from the start than Feterita, on account of its astonishing growth after it becomes well rooted. Every testimonial received expresses astonishment at its rapid growth.

The grain has about the same feeding value as Egyptian Corn or Milo Maize; yields from two to three tons of grain per acre. The seed is more susceptible to cold than other sorghums, therefore should not be planted so early, nor should it be planted in cold soil.

The second growth stools wonderfully, producing several tons of excellent forage for pasture or for ensilage after the seed has been harvested. It thrives luxuriantly on soil so alkaline that field corn will not thrive. The heads are upright. Price—per (lb. 25c prepaid) (10 lbs. \$1.00) f. o. b. here. Write for quantity price.

J. A. Clipper, Imperial Valley, advises 12 pounds of seed per acre drilled two feet apart, by so doing it yields 5000 to 6000 pounds of grain per acre.

NON-SACCHARINE SORGHUM Continued



This picture shows Shallu at its best—12 feet high and maturing seed early in July

Shallu At our demonstration, Shallu tillered more than any other sorghum except the Wonder Forage Plant. The second growth was particularly fine. We would place Shallu at the head of non-saccharine sorghums were it not for the destruction of seed by birds. It is hardly possible to harvest a crop of seed where birds are at all numerous. For green feed it is hard to excel.

Shallu will thrive luxuriantly in extreme Alkaline soils. Both the green stalks or the ripe grain are greedily eaten by all kinds of stock from horses to chickens.

(Per lb. 25c) postpaid. Write for quantity price.

Mr. de Venelle: "I planted 15 lbs. of your Shallu and harvested 1900 lbs. of grain and 50 tons of fodder, without irrigation."

Mr. E. S. Cook, Imperial Valley: "It grows as thrifty on alkali soil as any other; it produces from two to three tons of seed per acre."

COMPLIMENTARY

A W WESTCOTT, California

I have your seed catalog for 1919 and will say it's a dandy, the best seed catalog I have ever seen I especially like the attention you give to Alkali resistant plants, you are pioneering on a subject of growing importance to the west.

Egyptian Corn Like the preceding fodder crops, it is grown chiefly for the foliage to pasture when young, but yields largely of grain. The chief merit of these fodder crops is in their hardness to produce fodder and grain with almost no rainfall or irrigation. Sow eight pounds per acre drilled. Price—per (lb. 25c) postpaid (10 lbs. \$1.00) f. o. b. here. Write for quantity price.

White Milo Our demonstrations of Sorghums showed White Milo to be similar to Feterita in growth and in production of seed with an inclination to be more branching.

It is taller than dwarf Milo. The seed is pure white, not as round nor as large as Feterita. (Per lb. 25c) postpaid. Write for quantity price.

Kafir Corn Grows similar to the Milo Maize except the head is upright instead of hanging over like Milo Maize and Egyptian Corn. It will yield two to three thousand pounds of grain per acre. Sow 8 pounds of seed per acre drilled. Price—per (lb. 25s) prepaid. Write for quantity price.

POISONING BY SORGHUM: Many are reluctant to feed Sorghum for fear of poisoning stock, but we herewith give the facts:

When cut before flowering, it must be allowed to wilt in the sun for several hours before being fed to the stock as at this stage it contains a proportion of prussic acid and is liable to be poisonous. This disappears after the flowering stage is reached. This poisonous quality is more noticeable in the second crop, or, when after a period of drouth or frost when young it has become stunted. In the form of properly prepared silage or dry fodder, Sorghum is never poisonous, but it is dangerous to pasture or to feed green sorghum after it has been frosted or stunted; it should then be cut and dried or ensilaged.

Millet

Write for quantity prices on all varieties

Millet would be grown more extensively were it not for the destruction by birds.

Therefore in order to get best results it is important that you plant the variety best suited to your purpose.

In order to acquaint ourselves with the characteristics of each variety that we may give intelligent advice we planted eleven varieties on our demonstration plot.



Brown Top Millet, 8 feet tall
The largest of eleven varieties

Brown Top Of the twelve varieties of Millet in our demonstration plot, the Brown Top looked the best for abundance of forage. It may be cut back repeatedly, or if allowed to mature it will produce an abundance of seed good for poultry, or it will be a good crop for the silo. Given the same culture you would apply to corn, it would yield as much tonnage and may be better quality for dairy cows. Try it! Seed is limited. Price (per lb. \$1.00) postpaid. One pound is sufficient to plant ½ acre. We believe it is excellent for milch goats.

Japanese Millet Grows rapidly four to five feet tall, branches freely with liberal foliage, matures seed within seventy-five days, seeds freely, vulnerable to birds. We recommend it for early pasture or to cut repeatedly for hay. 30c lb. postpaid.

White Wonder Millet Grows four feet tall bearing large heads covered profusely with bristles which repels attacks by birds. It does not stool freely but branches to some extent. The stems are strong enough to support the heavy heads. We recommend sowing this variety to be grown for grain for small chicks.

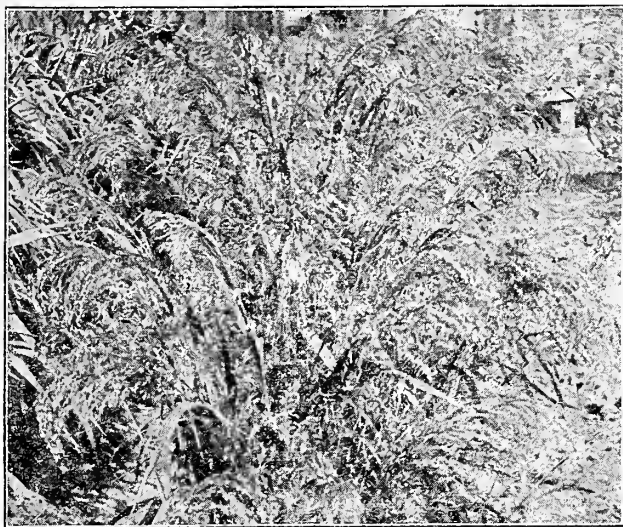
Golden Millet Grows three to four feet tall, branches freely and is enormously prolific of seed. The heads are covered with small bristles. Where birds can be controlled this is probably the best variety to grow for seed. Where moisture is scarce this is a good variety to grow for pasture.

Pearl Millet Grows eight to ten feet tall having heads eight to ten inches long prolific of seed that is hard and not eaten greedily by any kind of stock. When young the enormous growth of foliage is succulent but becomes coarse and objectionable and should be silaged before feeding.

We recommend this variety for green feed to cut when two to three feet tall. It is eaten greedily by all stock. 40c lb. postpaid.

Russian Millet, Hog Millet If moisture is lacking and you need pasture in the shortest space of time, plant Red Russian, or Hog Millet, there is a very slight difference and both may be pastured within six weeks; both mature seed within sixty days, it grows three to four feet tall. This seed may be harvested by heading and a second crop will mature within another thirty days. We recommend it for a quick temporary pasture. 25c lb. postpaid.

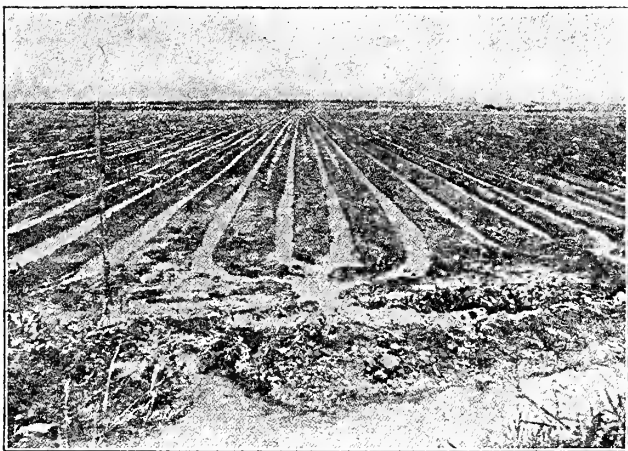
MILLET--Continued



Hansen's White Siberian Proso This, like wheat, in Siberia is the "staff of life." We can readily understand why after seeing it in our trial grounds.

If you want a quick pasture for your stock, plant Proso, and within four weeks you have it. If you want feed for your poultry, within sixty days you have it, and at the same time you can grind the grain in your poultry mill, and have cakes and muffins for your breakfast. Probably the much advertised brown bread of Siberia is made from the Proso. Seed is limited. **Price (per lb. 40c) postpaid.** One pound is sufficient to sow one-fourth acre. Try it!

Our seed stock was purchased of Prof. Hansen of the South Dakota Experimental station. A demonstration at our trial grounds shows it to be similar to Hog Millet but earlier and more prolific, stooling and branching enormously. Notice in the picture a sixty days' growth.



Getting a Stand of Grain, Grass or Alfalfa by the Corrugated System (See Page 64)

"I am in receipt of your 27th annual catalog, 1920; and I thank you for being remembered. Your catalogs are different from a great majority of catalogs from Seed Houses. They do not run from year to year in the same old stereotype form, but always contain something new and interesting. I file them away as carefully as I do one of my business letters that I want to follow up and refer to frequently. Many times I think that I want to go into the truck game myself, and your annual catalog always whets
"H. H. HARRINGTON, Agricultural Director, Gulf Coast Lines."

GROW HEMP, RAPE, SUNFLOWER AND CANARY SEED



Plant Sunflower for Windbreak

Sunflower stalks are rich in potash, plow them under, do not waste them.

We import annually a carload of sunflower seed. Will not someone who has alkali soil try to grow it. We will agree to buy the seed at market price. However, you should consider the bird question when thinking it over.

If this catalog pleases you, tell your neighbor to send for one.

Mammoth Russian Sunflower should be planted largely for seed or silage. It makes a good windbreak around your garden. It is a valuable plant that grows anywhere with little attention.

1 lb. 25c postpaid. Write for quantity price.

Rape Thousands of sacks of rape seed are imported each year, while it grows wild in some localities of Southern California. It is a profitable and easy crop to grow and harvest. If interested see us about it. **(Per lb. 25c prepaid). Write for quantity price.**

Canary This can be grown quite successfully here. It is just as easily grown as barley, and requires the same cultural treatment. Several carloads are imported each year into Los Angeles. The consumption throughout the United States is enormous. All of this could be grown in California. If interested, write or see us about it. **Per lb. 35c postpaid. Write for quantity price.**

Hemp What has been said here of Canary is applicable also to Hemp. It is easily grown and requires about 100 days to mature a crop. It requires sixty pounds of seed to plant an acre, and should be sown in February. If interested, write or see us about it. **Per lb. 30c postpaid. Write for quantity price.**

CANARY SEED

The high prices that are likely to prevail indefinitely would justify planting large acreage to these crops. The one drawback is the destruction by birds. All are easily grown and harvested, but plant at least fifty acres, in order that you may have a carload of grain, or unite with your neighbors to grow a carload.

Many of these crops should be planted during December and January.

Big Business

In our 1920 catalog we advised growers to "Get Ready For Big Business." They did so with the result that the 1920 crop exceeds all previous records, and all prospered except those who planted largely to very perishable crops—Cabbage and Onions—these two crops are always speculative. When they win, it is easy money, but growers should not plunge all in one crop. Diversified farming with one leader crop is advisable, if the leading crop be non-perishable, such as grain, potatoes, beans, hay or cotton. Large acreages of perishable crops, such as tomatoes and peppers should be contracted for before planting, then you are not speculating; your success is in proportion to your skill in growing that crop.

Grain and Field Crops

(See Sulphur for Fertilizer, Page 60)

When field seeds are desired by mail, add the required postage. See inside front cover page.

Write for quantity prices on all grains.

With our up-to-date facilities for cleaning all kinds of seed, we aim to have all field seeds as clean and free from foul seeds as it is possible to make them.

Grain and other field seeds that pass in the open market as clean will often show ten per cent or more of broken grain, foul seeds, chaff and dirt. Should our prices appear higher than others, you will find upon investigation that they are cheaper, because of the purity of the seed.

Legal Weights—Pounds per Bushel

Barley	48	Clover Seed ..	60	Potatoes	60
Beans	60	Millet	50	Rye	55
Corn	56	Oats	32	Wheat	60

Write the Department of Agriculture, Washington, D. C. Ask for Farmer's Bulletin 939. Subject "Cereal Smuts and the Disinfection of seed grain."

Treating Grain Seed for Smut

1. Dissolve 1 pound of bluestone (copper sulphate) in 4 gallons of water, which must be held in a wooden trough or tub.

2. Dip the seed, contained in half sacks or butts, for three to five minutes in the bluestone solution. Shake out the air as the sacks soak.

3. Drain the sacks for 15 minutes, and then dip in lime solution, prepared by slaking 1 pound of quicklime in 8 gallons of water. If the lime solution becomes blue, replenish with a new solution.

4. Dry thoroughly before storing.

When barley is treated with this solution, or when the lime dip is not used after the bluestone treatment, use 1 pound of bluestone to 5 gallons of water. Wash seed in water before dipping in bluestone where the lime dip is omitted.

Before dipping the seed in bluestone the smut balls must be washed out by pouring the wheat slowly into water and stirring it, when the balls may be skimmed off the surface.

Write for Price

It is important then that growers give attention to the description in order that they will plant the grain best suited to their locality with regard to soil and climatic conditions.

Wheat

Defiance One big drawback against growing wheat in California has been rust, but this has been largely overcome by planting the Defiance variety where cool, moist weather conditions prevail. This variety is practically rust-proof.

Defiance is a late wheat and should be planted early and seeded thin. It is non-shattering and classed as a hard white wheat, and number one for milling.

Twenty-five acres grown by Mr. A. F. Thirlwall, Chino, averaged 60 bushels per acre

Sonora This variety is recommended because of large yield, earliness and drought resistance. It is susceptible to rust and inclined to shatter, but it has long been a standard variety in Southern California back from the coast. It is classed as a soft white wheat.

Early Baart Another season has demonstrated that Early Baart Wheat is the right variety for the interior valleys. Favorable reports have come from San Joaquin and Imperial indicating that this variety will yield 20 sacks per acre under dry conditions that would impair other crops.

More acreage will be planted to this variety because it is no longer an experiment; it has demonstrated that it will outyield other varieties for dry farming.

Barley

Sow 50 to 60 Pounds Per Acre

We aim always to have the best it is possible to procure. We cannot fix a price because of the fluctuations of the market.

Bearded Barley, Beardless Barley and Bald Barley. Write for prices.

TRY THIS

One rancher whose name we can not recall, told us that he sows his barley early and cuts it three times for hay; each time before the heads appear, and then allows it to head out for grain. Try it!

Common Barley

The standard for California since old mission days, and has not been excelled by any variety since that time. It stood to a wonderful degree. If you are looking for clean heavy seed see us about it.

Oats

Sow 70 to 100 Pounds Per Acre

Texas Red (Rust Proof)—This is the only variety that is profitable to plant here. We have this on hand during the planting season.

Texas Red Oats—Grown in Texas.

Texas Red Oats—Grown in California. Write for prices.

We reclean all our Texas Oats to eliminate any Johnson Grass.

MARIOUT BARLEY

The Department of Agriculture says, in Bulletin No. 312, regarding Mariout:

Prediction that Mariout barley introduced by the agricultural experiment station of the University of California eventually will replace the common barley over large areas to which it is adapted, as already it has in Yolo and Solano Counties, is made by authorities at the college of agriculture, based on returns of a recent census by G. W. Hendry showing that 40,000 acres have been grown to Mariout by 400 growers in 25 counties of the state.

Mariout barley is leading common barley in yield this season by more than four sacks per acre. While not regarded as superior under all conditions, the value of Mariout has been well proved on dry light soils, in hot, dry localities, and for late planting.

H. L. Roberts of Beaumont, Riverside County, reports yields of 25½ sacks per acre from Mariout and 17 sacks per acre from common barley. Says Roberts: "I think Mariout is the coming barley, but believe I planted too early (November 10, 1919), and it headed out so quickly that it was frosted some."

C. V. Storm of Winchester, Riverside County, reports yields of 25 sacks per acre from Mariout and 14 sacks per acre from common barley.

Geo. Dawson of Del Mar, San Diego County, reports Mariout to have yielded 20½ sacks per acre and common barley 17 sacks per acre.

Chas. Madsen of Lompoc, Santa Barbara County, reports Mariout at 14 sacks per acre and common barley at nine sacks per acre.

Donald C. Ingersoll of Encinitas, San Diego County, reports Mariout to have yielded 23 sacks per acre and common barley 15 sacks per acre, and concludes that Mariout is a wonderful crop for the light mesa soil of San Diego County.

We could add much more in praise of this Barley but believe that enough has been said to induce a trial with your local conditions. Have in mind this is a dry land or desert plant and should be planted late enough to bring the seed to mature after the rainy season is well by. Also, that it must not be expected to do well on cold marsh or damp land.

If interested write the U. S. Department of Agriculture, Washington, D. C., for Farmer's Bulletin No. 785.

FLAX

Russian Flax will undoubtedly grow as luxuriantly in the Imperial and San Joaquin Valleys as it does in San Luis Obispo County, where it is at its best and yields about two tons of seed per acre. Sow 40 pounds of seed per acre. It requires the same culture as barley.

Price (40c per lb. prepaid). Write for quantity price.

RICE

If interested ask for further information. RICE growing as an industry is now established in certain sections of California. It is now only a matter of local conditions.

If interested write to U. S. Department of Agriculture, Washington, D. C., for Farmer's Bulletin No. 688, and Circular No. 97.

The variety, now accepted as the best for California, is the Wataribune, an early variety imported from Japan.

Price—(per lb. 30c prepaid) (10 lbs. \$1.50) f. o. b. here. Write for quantity price.

Rice is now grown in such widely distributed territory throughout California that it is evident we have the climate and it is only a matter of local condition. Therefore if you have clay hard-pan soil with duck ponds and tule, just grade it so it can be flooded, and sow rice. Apparently the more alkali the better.

To grow rice successfully necessitates a pond or reservoir that the water may attain a higher temperature, than is usual for fresh water, when applied to the rice field.

Rye

Sow 60 Pounds Per Acre

Although Rye is sown largely for early winter pastures green manuring and a limited acreage for the straw, it should be grown more largely for the grain which is now in great demand. It had not been considered a profitable crop because of a small yield of about 1000 pounds per acre. But since the Rosen Rye has come into prominence the yield has increased 2000 pounds per acre which together with the straw nets a good profit to the grower.

Rosen Rye The Rosen Rye was brought from Russia in 1909 by Mr. Rosen, a student from Russia, attending the Michigan Agricultural College. This rye has been carefully kept 99% pure. Each head fills four complete rows of grain. The grains are much larger than of common rye and the yield per acre is 35 to 40 bushels while 15 bushels per acre is all that may be expected of common rye.

Another season has demonstrated that Rosen Rye is better than the common winter rye, therefore plant the best.

Cotton



A Cotton Field in Imperial Valley.

Pure Pedigreed Seed All the seed we offer will have the approval of the proper horticultural inspectors. Therefore, you need not hesitate to order our seed. Write us stating what variety you want. We will then quote the price giving a pedigree of the seed offered and the place where it was grown.

What one grower says: "The only good kind to plant is short staple cotton. It is less expensive to plant, has a larger yield, lesser picking expense and smaller ginning cost; has a shorter maturing period thus doing away with taking chances of frost catching the crop before real maturity. Do not plant long staple cotton near the coast."

We offer the following varieties: Lone Star, Durango, Pima.

From our 1909 Catalog:—Mr. Loftus grew 160 acres of cotton in the Imperial Valley in 1908, when the total acreage was only 390.

Note 1920 Crop

The Government Estimate around 210,000 acres of Pima cotton in Arizona, of which 190,000 acres are in the Salt River Valley. The rest is in the Yuma Valley, Casa Grande Valley, south of Phoenix, and Santa Cruz Valley, near Tucson. The Government estimates for California alone give the Imperial Valley 225,000 acres of cotton, with 130,000 acres below the Mexican border; 5000 acres in the Yuma Valley, 25,000 acres in Riverside County and 23,000 acres in the San Joaquin Valley, with 15 per cent of the California total in Pima cotton. So much for statistics.—From the Rural World, August 21, 1920.

A Real Maggot Remedy



Protects your Crops

against the ravages of the destructive Root Maggot, and other garden pests, making it possible to get fine crops of vegetables.

Also eradicates Earth Worms from Lawns and Putting Greens. Easily applied and is not in any way injurious to plant life, but is a valuable stimulant and fertilizer.

In powder form, ready for use.

APPROXIMATE QUANTITY REQUIRED

A 2-lb. package for about 300 feet of drill, or for filed culture 300 to 500 lbs. per acre.

2 pound package.....	\$.35
4 pound package.....	.60
8 pound package.....	1.00
25 pound sack.....	2.50
100 pound sack.....	8.50

SEND FOR FOLDER OF FULL DIRECTIONS

Broom Corn

Tall Evergreen Broom Corn This Broom Corn grows about eight to ten feet high, stands up well and is entirely free from crooked brush. The fibre is long and fine. Its great value is that it will not get red in the field before it is cut, but it is strictly a green variety of brush, commanding high price. It grows to perfection in all sections of Central and Southern California, back from the coast.

(Per lb. 30c postpaid) (10 lbs. \$1.00 f. o. b. here). Write for quantity price.

Dwarf Evergreen Broom Corn is more desirable than the Tall in a locality where a strong wind prevails. It is also less trouble to harvest, while the yield is nearly the same as the Tall variety. Price—(Per lb. 30c postpaid) (10 lbs. \$1.00 f. o. b. here). Write for quantity price.

Buckwheat

Common Buckwheat It is now demonstrated that buckwheat is one of the best cover crops to grow during the summer months. The soil is always moist where shaded with buckwheat. Sow the seed any time after April 1st, about 45 pounds per acre. Within ten weeks it will have matured another crop. Thus with one sowing of seed you can plow under four crops. It will not survive the winter. Therefore it is necessary to sow once a year. We advise irrigation about time of maturity, and plow under as soon after irrigating as the soil will permit.

We highly recommend the growing of Buckwheat for reclaiming desert land, as it will start a growth and produce a crop under more adverse conditions than any other crop we know of.

Sow 40 lbs. per Acre

1 lb. 25c postpaid. Quantity price on application.

Silver Hull Blooms longer and matures earlier than other varieties; grain of a beautiful light gray color with very thin hull.

Do not plant

Silver Hull Buckwheat for bee pasture

Price—Per lb. 25c postpaid

TOBACCO

Grow your own smoking tobacco

If interested consult us about the culture. One ounce of seed is sufficient to plant an acre.

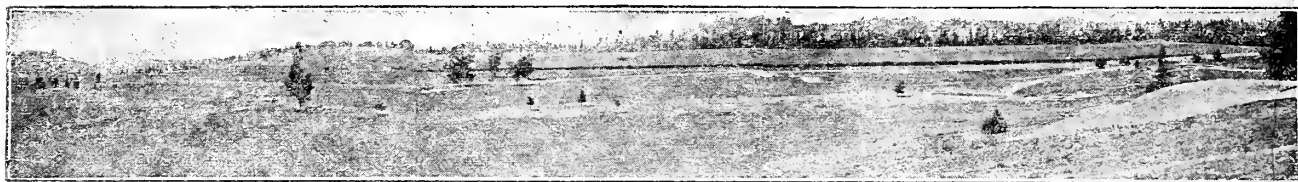
Kavala This is the finest of the Turkish Varieties. (Pkt. 10c) (oz. 50c).

Pennsylvania Broad-leaf The largest known variety. At our demonstration plot we grew leaves that measured 40 inches long, 28 inches wide. In Pennsylvania this variety developed leaves 44 inches long and 36 inches wide. It is the best variety to grow in the home garden for use in the chicken house or other insecticide purpose. Also if handled properly makes a good smoking tobacco for the pipe. (Pkt. 10c) (oz. 50c).

Acclimated Havana For quality this is the very best. (Pkt. 10c) (oz. 50c).

"I shall await your next issue of the catalog in anticipation of the many good things you serve up to your patrons and I consider yours the most useful seed catalog issued."
Edward H. Cowles, San Dimas, Calif."

Grass Mixtures for Polo and Golf



Golf Links of the Midwick Country Club.

We have grasses and combinations of grasses for every purpose. Our mixtures are selected with a view of their adaptability to our climate and to the soil; also to the purpose for which the sod is intended. For city lawns we have not yet discovered anything better in this climate than White Clover and Kentucky Blue Grass.

Mr. J. A. Felton, superintendent of the grounds at the Midwick Country Club prefers a mixture of Rep Top, Chewings Fescue, Kentucky Blue Grass and White Clover. Mr. Felton says the mixture is O. K. but no one kind alone would answer the purpose.

For Polo and Athletic tracks, Bermuda is the best. For Golf Links each manager has a formula of his own. This is accounted for by the difference in the soil; therefore, we have on hand the following grasses and prefer to let each customer do his own mixing:

Kentucky Blue Grass.	Rhode Island Bent.
Perennial Rye.	Bermuda Grass.
Meadow Fescue.	White Clover.
Red Top.	Write for prices.

Sunshine Revolving Sprinkler

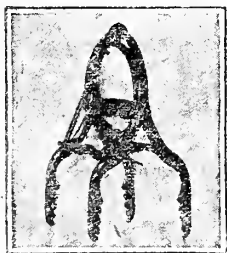
(See Page 53)

The most reliable sprinkler of its kind on the market. Will last for years. Will operate with a pressure of 10 lbs. or over. Made in three sizes:

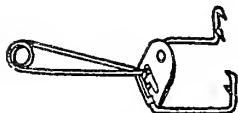
No. 1.....	\$4.00
No. 2.....	\$5.25
No. 3.....	\$6.75

F. O. B. here

Can also furnish a No. 4 head and arms for stationary pipe with $\frac{3}{4}$ to $1\frac{1}{2}$ in. pipe connections.



Out-o-Sight Mole-Trap



Toy Gopher Trap. Price 25c.

Out-O-Sight Mole Trap

This trap has been in use for a number of years and is the most successful Mole Trap patented. It is placed over the runway in such a manner that it catches the mole if he travels in either direction. Price, \$1.75 by mail.

WEEDICATOR

A New Discovery of Incalculable Value

The agricultural world has long endeavored to have some way of destroying weeds chemically, without injury to the soil.

This new discovery, called "Weedicator," destroys only the weeds that are treated with it. It fertilized the soil instead of injuring it.

If this is true it will prove to be a wonderful benefactor to agriculture.

Here is what the manufacturers guarantee:

"Weedicator, used as sealed in original container, is guaranteed to absolutely destroy the roots and tops of any matured weed when properly and thoroughly sprayed as directed, and that it will in no way damage or injure the soil."

What is Claimed it Will Do

Weedicator is particularly efficacious in stamping out Johnson grass, Bermuda grass, Canadian thistle, wild morning glory, wild hollyhock, innumerable weeds, including poison oak. In fact, every plant, herb, vine, bush or tree of noxious character is an easy victim of Weedicator. In every practical test the victory of Weedicator is conclusive and complete.

Remarks

California and numerous other States have enacted laws requiring the extermination of all pest weeds and noxious growths, and failure to do so subjects any person responsible to severe penalties of fine and imprisonment. There is no more economical method of complying with these statutes than by the use of Weedicator.

The cost depends somewhat upon conditions, but in no case will it exceed ten per cent of the cost of any other method of destroying weeds and noxious growths. One gallon will accomplish more than the hand labor of fifty men.

The process will require about ten days to two weeks for killing the tops, and from thirty to sixty days for killing the roots.

The most favorable time to apply Weedicator is when the weeds are maturing—preferably before they go to seed or into winter dormancy.

1 quart size.....	\$.85
2 quart size.....	1.50
1 gal. size.....	2.50
5 gal. size.....	12.50
Bbl. or $\frac{1}{2}$ bbl.....	2.00 gal.

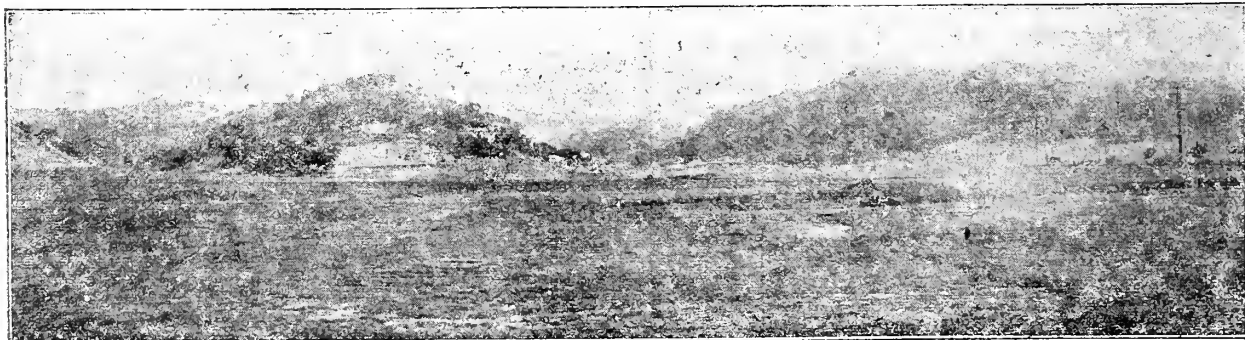
Hyde Park, Calif., May 17, 1920.

Weedicator Weed Co.,
Los Angeles, Calif.

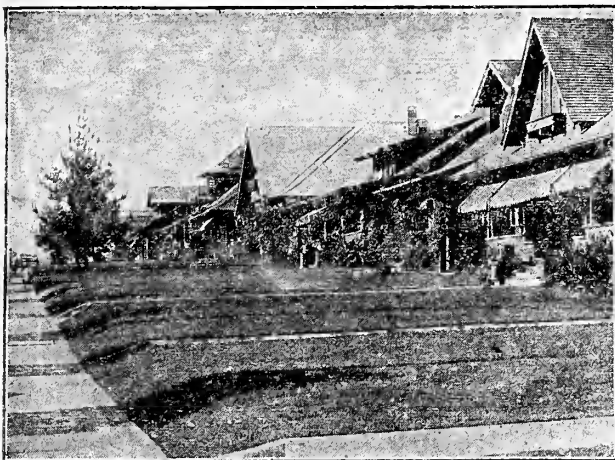
Gentlemen:

In answer to your inquiry about Weedicator Sure Shot, I wish to recommend it to eradicate Bermuda grass, or any other pest weed that grows in Southern California. We have tried it at the Inglewood High School and on the pest weeds at Hyde Park School grounds, and the results are very satisfactory.

J. F. NELSON,
Trustee for Both Schools.



The Golf Links of the Hollywood Country Club Are Seeded With a Mixture of Chewings Fescue, Perennial Rye and Kentucky Blue Grass



Every Lawn on the Block Shows A & M Lawn Mixture

A & M Perfect Lawn Mixture According to the new discovery concerning inter-cropping with Legumes, we have made a perfect mixture of the purest Kentucky Blue Grass and Dutch White Clover. This has been found to make the firmest sod and prettiest green lawn. It does so because the clover is a nitrogen gathering legume and this nitrogen fertilizes the Blue Grass.

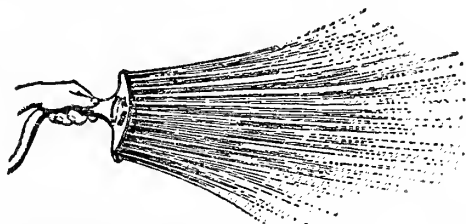
When you make a lawn be sure to sow **A & M Lawn Mixture**, 1-lb. to 250 square feet of surface. Per lb. 80c postpaid.

Fancy Kentucky Blue Grass The purest and best lawn seed. Produces a lasting and beautiful effect. We sell only the finest quality of this seed. (Per lb. 70c prepaid) (10 lbs. \$5.50 f. o. b. here).

White Dutch Clover Makes a showy effect much quicker than the Blue Grass. In conjunction with the Blue Grass, however, it forms the finest and closest turf. (Per lb. \$1.05 prepaid) (10 lbs. \$9.00 f. o. b. here).

Perennial Rye Grass s very strong and quick-growing, producing an immediate effect. Later it becomes bunchy, and after a few years runs out. (Per lb. 35c prepaid) (10 lbs. \$1.75 f. o. b. here).

Nico-Garden Dust Destroys and prevents Plant lice, Mildew, Leaf-eating Insects, Thrip, Ants, Slugs and other Pests. ½-lb. pkt. price 40c postpaid.



THE ROSS SPRINKLER 85c postpaid.

Worthington "Lawn Cleaner Rake"

"Something New in Rakes"

This rake is made to clean lawns of Bermuda Grass, Burr Clover, weeds, etc. Is made of steel and iron throughout and will withstand the heaviest kind of work.

Price \$3.00 f. o. b. here.

Havil Lawn Weeder
60c postpaid



A Lippia Lawn at the Narbonne Ranch Coachella Valley.

Lippia Canescens This is a low-growing, trailing plant, producing grayish-green leaves, and quantities of small lilac-colored flowers. While it will respond to a light application of water, it will thrive and produce a good effect with little or no watering. Unlike Bermuda grass, it will never become a nuisance, and can easily be eradicated at any time. It stands sun and shade, and is well suited for planting in parkings along streets and avenues, and on terraces.

It is propagated by planting slips. Prepare the ground as for any other lawn or if a terrace prepare a suitable surface at the top for planting. Soak the ground until it is quite muddy; then with a pressure of the thumb bear into the mud; one end of a slip six or eight inches long eight or ten inches apart each way. Sprinkle not too freely each day to keep a fresh green appearance.

We will send by mail postpaid enough cutting to plant 200 square feet of surface for one dollar (\$1.00). This will multiply rapidly in a very short time.

JUST THE THING FOR THE DESERT

From Mrs. I. C. Johnson, Las Vegas, Nev.: "We are delighted with the Lippia Grass for the cemetery. We think it is the only thing for the desert. The grass was received in lovely condition. Thank you for your advice."

Read carefully every page of this catalog. You may miss something important.

How to Make a Beautiful Lawn

The beautiful lawns of Southern California cannot be excelled anywhere in the world. In few places can a new home become so quickly surrounded with luxuriant vines, trees, shrubbery and flowers. This climate will accomplish more in one season than five seasons of Eastern climate. It is a pleasure to plant here, for there is something blooming all the year round. But it requires skill and intelligent aid to direct nature to produce a profusion of beautiful colors at all times.

To keep up the beauty of a lawn it will be necessary to feed the grass well. You cannot expect it to retain that depth and richness of texture and color which characterizes it while young, after the elements of plant food have been exhausted.

In Southern California lawns may be made all the year. The first thing to do in making a lawn is to put the soil into proper condition to receive the seed. More lawn failures are due to insufficient preparation of the soil than to all other causes combined. If the soil is poor and of a sandy, clayey, or adobe nature, and a good rich loam is not available, satisfactory results may be obtained by spading in a liberal quantity of stable manure. Lawn grasses are voracious feeders and for that reason it is desirable to have at least eight or ten inches of good rich soil. Stable manure is most commonly used, especially for sandy soils, as chemical fertilizers usually leach too rapidly.

Sow about one pound of seed to two hundred square feet of lawn area. This heavy sowing is better than a thin sowing because many weed plants are crowded out by a good thick stand of lawn grass. The seed is sown evenly when the wind is not blowing and lightly raked into the surface.

CHRYSANTHEMUMS

Standard-Anemone-Pompom

No flower is quite as satisfactory as the Chrysanthemum.

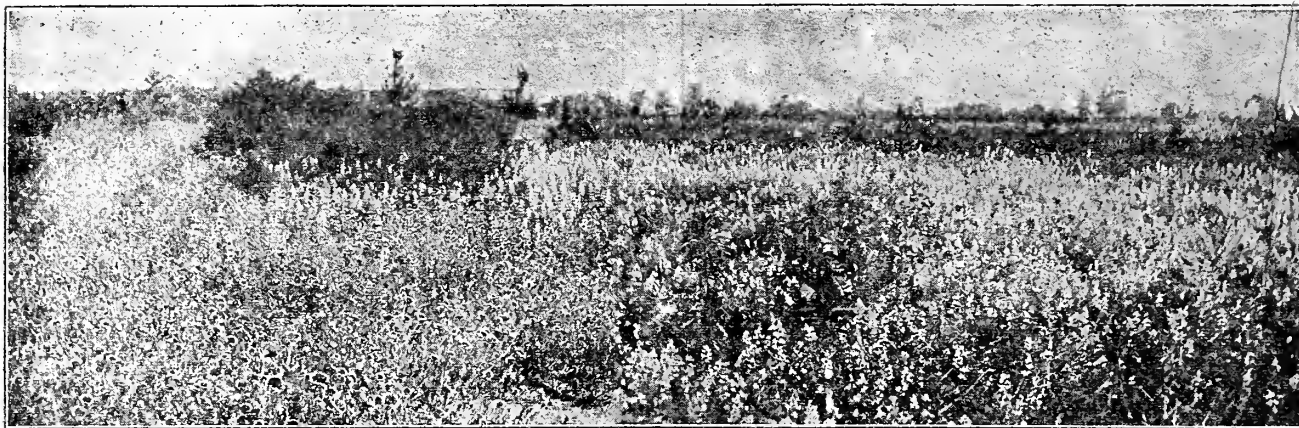
There are few insect pests to destroy, no fungus disease attacks them; they need no re-planting for years.

Get started right and you will have pleasure in your flowers for years with comparatively little care.

It is not satisfactory to start with seed except for experimental purposes. To the gardener this is very interesting, but you want fine large flowers and you want them as quickly as possible. Therefore, write to Sadie A. Thomas, 308 Stephenson Ave., Box "A," Pasadena, Cal.

Ask for her catalog; it will help you select your order. Miss Thomas has the largest collection in America

CALIFORNIA, THE LAND OF FLOWERS



Just a Prairie of California Wild Flowers

If you have a piece of ground you cannot irrigate or have not time to give particular attention, yet you want to have something beautiful instead of unsightly weeds, we advise you to plant our California Wild Flower Mixture, and you will have a plot of wild flowers like the picture above. One pound of seed is sufficient to plant an acre. (Pkt. 10c) (oz. 50c) (¼ lb. \$1.50) (½ lb. \$2.50) (lb. \$5.00) postpaid.

To the Lovers of California Wild Flowers

We recommend to you a book entitled "Annotated List of the Wild Flowers of California" by P. B. Kennedy, B. S. A., Ph. D., University of California. President of the California Botanical Society. It has just the information you want with you when you travel through the hills and valleys of California. Price at the counter is \$1.50. By mail \$1.60.

There are no more satisfactory flowers than those grown from seed, especially the easily grown and brilliant flowered annuals. The beautiful shrubs and lilies, of course, have their place, but are far more expensive than a paper of seed which will furnish a large number of plants with usually enough for one's garden and some to spare.

This page is intended to aid you in the selection of your seeds that you may have flowers all the year round, and for every purpose.

Tender or Greenhouse means the plant will not stand the least frost. All such must be planted late in spring (May) or in a greenhouse.

Half Hardy means the plant will stand any light frost, but needs protection against very cold weather. These should be planted in the spring (March and April), not in the fall.

Hardy means the plant will stand considerable frost, or practically all we have on the Pacific Coast. These may be planted in the fall or in the spring (October to May). If sown in the fall they will come into bloom earlier than if

sown in spring, even if the plants do not make much progress during the cold weather.

Annuals are plants that bloom the first year from seed, and the plant dies after one season. Tender annuals must be sown in spring (April to June) and hardy annuals may be sown in either spring or fall (October to May).

Biennials are plants that bloom the second year from seed, and the plant dies after blooming. In California many of these will bloom the first year if sown early. Sow under same conditions as perennials.

Perennials are plants that bloom the second year from seed, and the plant lives and blooms during successive years. If sown in early spring (February to April 15) many perennials will bloom the first year from seed. Tender and half-hardy perennials are best sown in spring after frost is over (April 15 to June). Hardy perennials are best sown in the late summer and early fall (July to October) for next year's flowers.

LIST OF FLOWER SEED FOR SPECIAL PURPOSE

PERENNIAL PLANTS

Antirrhinum, Aquilegia, Asters (hardy sorts), Bellis, Canna, Campanula, Carnations, Chrysanthemums (hardy sorts), Coreopsis, Delphinium, Dianthus, Digitalis, Gaillardia (hardy), Geranium, Gypsophila, Paniculata, Heliotrope, Hollyhocks, Lobelia (hardy sorts), Matricaria, Myosotis, Phlox (hardy), Pinks (hardy), Poppy Iceland, Poppy Oriental, Primrose, Pyrethrum, Sweet William, Verbena, Violet, Wallflower.

PLANTS FOR BEDDING AND IN MASSES

Adonis, Agrostema, Amaranthus, Antirrhinum, Asters, Bachelor's Buttons, Balsam, Calceola, Calendula, Calliopsis, California Poppy, Campanula, Canna, Castor Beans, Carnation, Chrysanthemum, Clarkia, Cosmos, Coxcomb, Delphinium, Digitalis, Four o'clock, Gaillardia, Geranium, Heliotrope, Lantana, Larkspur, Linum, Mignonette, Nicotiana, Nigella, Phlox, Petunia, Pinks, Poppy, Salpiglossis, Salvia, Scabiosa, Sunflower (fancy), Stocks, Sweet Sultan, Sweet William, Verbena, Wallflower, Zinnia.

For Constant and Brilliant Bloom. African Daisy, Ageratum, Sweet Alyssum, Antirrhinum, Asters in all varieties, Calliopsis, all the dwarf Cannas, Centaurea, Eschscholtzia, Gaillardia, Scarlet Geraniums, Marigold, Nasturtium, Pansy, Petunia, Phlox Drummondii, Portulaca, Salvia, Scabiosa, Sweet Peas, Verbena, Double Zinnia.

Low-Growing Plants for Masses of Color. White—Sweet Alyssum, White Ageratum, White Candytuft, White Phlox, Drummondii, White Verbena.

Yellow—Gaillardia, Eschscholtzia, French Marigold and Nasturtium Lady Bird.

Do not fail to read the testimonials; many of them tell of the success others attain. We put them here thinking they may help you. Others are letters expressing appreciation of our effort to give our customers Reliable Seeds and reliable cultural instructions. It pleases us to get these letters because we then know that our effort is being appreciated.

Blue—Ageratum, Heliotrope, Lobelia, Blue Verbena. . . .
Red—Carmine and Crimson Candytuft, Geranium, Phlox Drummondii, Scarlet, and Phlox Dwarf Fireball, Poppy, Verbena.

Dwarf Plants for Edgings and Borders. Ageratum, Alyssum, Dwarf Candytuft, Centaurea, Coleus, Double Daisies, Golden Feather, Little Gem Feverfew, Heliotrope, Lobelia, Mignonette, Myosotis, Pansies, Phlox Drummondii, Pinks, Violets.

Fragrant Flowers. Sweet Alyssum, Candytuft, Carnation, Clematis, Paniculata, Honeysuckle, Heliotrope, Lily of the Valley, Lily, Mignonette, Nicotiana, Affinis, Pansy, Sweet Peas, Pink, Rose, Sweet William, Ten Weeks Stock, Tuberosa, Verbena, Wallflower.

Climbing Plants. Ampelopsis, Cypress Vine, Cinnamon Vine, Dolichos, the Gourd Family, Humulus Japonicus, Honeysuckle, Morning Glories and Ipomoea, English Ivy, Maurandia, Perennial Peas, Trumpet Vine, Canary Bird Vine, Alyssum, Begonia, Canna, Coleus, Dracaena Indivisa, Fuchsias, Lantana, Mignonette, Mimulus, Maurandia, Nasturtiums, Portulaca, Petunia, Schizanthus, Thunbergia, Myosotis (Forget-me-not).

For Cut Flowers. Antirrhinum, Aster, Carnation, Chrysanthemum, Coreopsis, Cosmos, Dahlia, Gladiolus, Gypsophila, Helianthus, Larkspur, Lupinus, Marigold, Mignonette, Phlox, Salpiglossis, Scabiosa, Stock, Sweet Pea, Sweet William, Sweet Sultan, Verbena, Wallflower, Zinnia.

For Shady Places. Anemone, Antirrhinum, Aquilegia, Begonia (tuberous), Double Daisy, Delphinium, Scarlet Flax, Foxglove, Oenothera, Pansy, Polyanthus, Violet.

"Your catalog was received a short time since. Thank you very much; it is a joy and an inspiration to do your best and have the best to do with. Please send a copy of your catalog to Mr. Howe. I feel sure he will find that you have many things he needs as he is always cultivating land to some extent. Again thanking you.

"MRS. KATE NEVINS, Contra Costa County, Cal."

"Your catalog came for which I thank you; it contains so much information that is not in other catalogs.

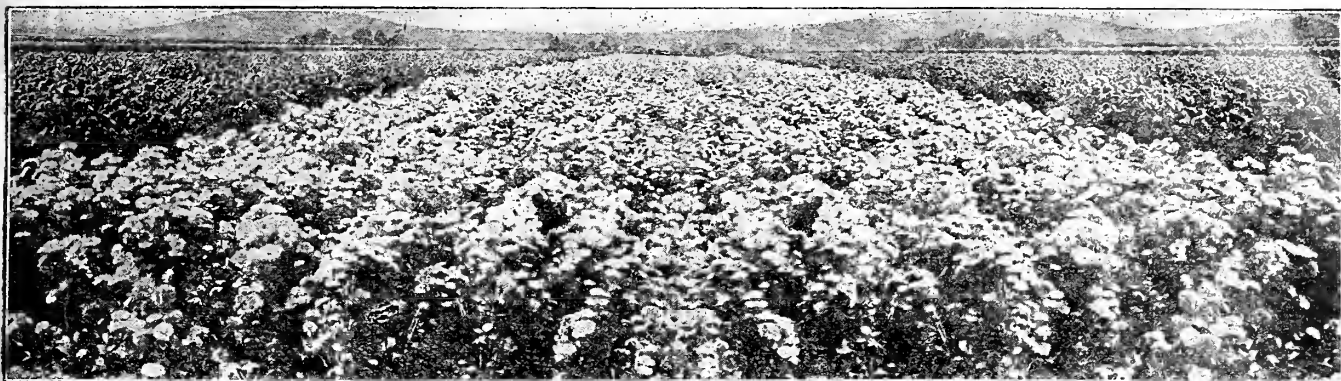
C. P. Rowland, San Luis Obispo Co., Cal."

"Your 1920 Catalog is a perfect encyclopedia."

Mrs. G. B. Hayes, Merced County, Cal."

FLOWER SEED LIST

For Planting Calendar See Inside Back Cover



Two Hundred Acres of Asters Grown by John Bodger and Sons Co. at El Monte, California.

ABRONIA (Sand Verbena).—A hardy annual, trailing in habit, about nine inches high, bearing verbena-like clusters of flowers, which are very fragrant. A native of California. Thrives in dry situations, and is valuable for rock work or hanging baskets.

Umbellata.—Rosy lilac. Pkt. 10c.

AGERATUM (Floss Flower).—A hardy annual of easy culture, especially valuable for bedding, as it is literally covered with blossoms all summer. Sow the seed early in the spring, either in boxes to transplant, or out of doors, and thin to four to six inches.

Blue Perfection.—Deep blue, one foot high. Pkt. 10c

Imperial Dwarf White.—One foot high. Pkt. 10c.

AGATHEA.—Sometimes referred to as the Blue Marguerite. Plants dwarf and compact, covered throughout a long season with myriads of small Blue Marguerite-like flowers. These are splendid for cutting purposes. Pkt. 15c.

ALYSSUM (Marrimum).—A fragrant hardy annual, having the odor of honey, and bearing spikes of small white flowers in great profusion throughout the summer and autumn. Useful for borders or early bedding flowers. Sow the seed early in spring.

Sweet Alyssum.—One foot high, very sweet honey fragrance. Pkt. 10c.

Little Gem.—Three to four inches high; fine for borders. Pkt. 10c.

Lilac Queen (New).—A new and distinct variety of a beautiful lilac shade. Dwarf, compact and very fragrant. Pkt. 10c.

AMARANTHUS.—Hardy annuals, grown especially for their brilliant foliage. **Caudatus (Love Lies Bleeding).**—Light yellowish-green foliage; long, drooping crimson flower spikes. Plants grow three to four feet high. Pkt. 10c. **Salicifolius or Willow Leaved.**—This variety never fails to attract attention. The long variegated foliage makes it very useful for tall bedding or as a background. Height 3 ft. Pkt. 10c.

ANGEL'S TRUMPET.—See Datura.

ANTIRRHINUM (Snapdragon).—Antirrhinum thrive in almost any soil, and should receive more attention. It is undoubtedly one of the best cut flowers which can readily be grown from seed, while for bedding or borders they are unsurpassed.

There is no flower prettier nor easier to grow than Cosmos. Nothing better for cut flowers.

Nanum, Black Prince.—Semi-Dwarf variety. Extremely rich color, which makes a splendid contrast with the lighter varieties. Pkt. 10c.

Majus or Tall Large Flowering Varieties.—Height 3 feet.

Majus, Delila.—A striking contrast of carmine and yellow with a white throat. Very choice. Pkt. 10c.

Majus, Queen Victoria.—Striking variety sending up numerous long spikes of pure white flowers. Excellent for cutting. Pkt. 10c.

Majus, Golden King.—Long spikes of showy yellow flowers which remain in bloom the whole of the summer. Pkt. 10c.

Bright Pink.—A delightful shade of pure rose pink. Very vigorous and free-flowering. Pkt. 10c.

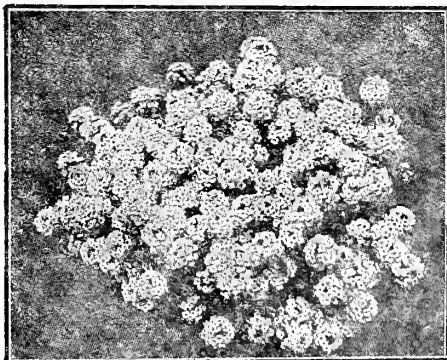
Majus, Grandiflora.—Tall. Mixed; including all the new colors. Pkt. 10c.

Majus, Straitum or Striped.—Pkt. 10c.

Majus Nanum.—Mixed.—Pkt. 10c.

Majus, Tom Thumb.—An excellent mixture containing all shades of these showy flowers. Splendid for edging and showy display. Height 10 inches.

Mixed.—Pkt. 10c.



Sweet Alyssum (Little Gem)



Aquilegia Long Spurred Hybrid

AQUILEGIA.—A hardy perennial, growing about two feet high and bearing an immense variety of colors on long, smooth stems.

California Hybrids.—Large yellow flowers, orange spurs; an improvement on our native sort. Pkt. 10c.

Coerulea (Rocky Mountain Blue Columbine).—Fine deep blue and white; long spurs. Pkt. 10c.

White, Spurred.—Pure white with long spurs. Pkt. 10c.

Single Mixed (A. Vulgaris).—Pkt. 10c.

Long Spurred Hybrids Mixed.—For cut flowers these long spurred hybrids are unexcelled. Profuse blooms, of almost every shade, borne on long graceful stems, make this variety one of universal admiration. Pkt. 15c.

ARCTOTIC (African Daisy). **Grandis.**—Large pearly white Marguerite-like flower, with delicate mauve center surrounded by a narrow golden band. The whole plant is covered with white down. Half hardy annual. Height 2 feet. Pkt. 10c.

Plant Sweet Peas during January for April and May.



Ostrich Plume Asters

ASTERS.—A popular half-hardy annual produced in a great variety of classes and an almost endless number of colors. The tallest grow about two feet high, and some varieties of dwarfs are not over eight inches high. The best method of culture is to sow the seed in boxes and transplant when large enough to handle. The seed can be sown, however, in the row where the plants are to remain, thinning them from six to twelve inches apart, according to variety. We offer the three most useful varieties.

American Beauty.—A wonderful new free branching Aster with very long stems. Grows nearly three feet tall with very double flowers. We offer these in the American Beauty rose and purple shades. Pkt. 15c.

Queen of the Market.—One of the earliest blooming varieties, blossoming frequently in July. Of spreading habit, 8 to 10 inches high. Blossoms medium sized, and the petals curve outward. The best variety for bedding or edging.

Mixed. All Colors.—Pkt. 10c.

Ostrich Feathered.—Extremely graceful Aster, with large, loose, feathery heads, unrivalled for table decoration, flowers double and semi-double. The branching habit makes this a conspicuous border plant. Height, 18 inches.

Crimson	White	Light Blue
Rose	Shell Pink	Dark Blue

All Colors Mixed.—Pkt. 10c.

Giant Branching.—The tallest and best florist's variety, and we heartily recommend it as the very best type of Aster we have. The plant grows 24 inches high and about 18 inches in width, and the blossoms, which are large and full-petaled, are borne on long stems or branches. The most satisfactory type of all Asters, since it is not only a showy bedding flower, but owing to its long stems and large blossoms, is valuable for bouquets. Comes into flower late in the autumn. Best colors:

Lavender	Rose	Crimson
Pink	White	Purple
	Mixed	

Pkt. 10c.

AUSTRALIAN PEA VINE (Dolichos Lig-nosus).—A rapid growing evergreen climbing perennial, flowering freely in large clusters of rose flowers. For covering arbors, trellises, etc., they have no superior. Pink Pkt. 10c.

ASPARAGUS

Plumosus.—A tender perennial for greenhouse or potted plant use, with long, fine feathery foliage. The sprays when cut, retain their freshness in water from three to four weeks. Seeds start slowly and should be soaked in water before sowing. (Pkt. 10c) (100 seeds 50c).

BALSAM OR TOUCH-ME-NOT.—A tender annual, with brittle stems and foliage. Flowers both single and double, in bright colors and variations are wax-like and very attractive. The individual blossoms floating in a dish of water exhibit their beauty to the best advantage.

Improved Double Camellia Flowered.—In its extraordinary size, perfect form and brilliant colors, this fine strain of balsams surpasses all others. Height 18 inches. Pkt. 10c.

Rose Flowered.—Handsome double flowers in form resembling a rose. Height 18 inches, fine mixel. Pkt. 10c.

Spotted.—Large semi-double flowers well adapted for borders, fine mixed colors. Pkt. 10c.

BACHELOR'S BUTTON.—See Centaurea.

BALLOON VINE, OR LOVE-IN-A-PUFF.—Climbing annual, with small inferior flowers. The seed pods are curiously swelled or puffed and are quite attractive. Pkt. 10c.

BARTONIA AUREA.—A showy annual bearing large golden yellow flowers which glisten in the sunshine. Height 18 inches. Pkt. 10c.

BELLIS PERENNIS (Double Daisy).—A hardy perennial, blossoming freely all spring and summer. Plant is about four inches high and is valuable for borders. Is much sown in lawns.

Extra Double White, or Snowball.—A clear white variety. Pkt. 15c.

Extra Double Pink or Longfellow.—A beautiful shade of pink. Pkt. 15c.

Double Mixed.—Pke. 10c.

BIGNONIA (Trumpet Vine).—Magnificent hardy perennial climber, with brilliant scarlet or yellow flowers; a most ornamental and effective covering for walls, houses, etc. 30 feet. Pkt. 10c.

BORDER PINKS.—See Dianthus Plumar-ius

BRACHYCOMBE IBERDIFOLIA (Swan River Daisy).—A charming annual deserving greater popularity. The plants, which grow about 10 inches high, are covered with small Cineraria-like blooms in shades of blue and lavender. Mixed.—Pkt. 10c.

CALENDULA (Pot Marigold).—Very hardy annual, one foot high, blooming freely practically the whole year round. Is of the easiest culture and is desirable for rather inferior soils, where less sturdy flowers do not thrive. A medicinal extract resembling arnica is made from the flowers.

Orange King (New).—This variety is now being grown indoors in Eastern States as a winter flower. Bears giant flowers sometimes 3 inches in diameter. Color pure orange. Pkt. 10c.

Lemon Queen.—Like the above but of pure lemon. Pkt. 10c.

Double Mixed.—A good mixture of 8 or 10 different shades of yellow, some clear colors and some shaded and striped. Pkt. 10c.

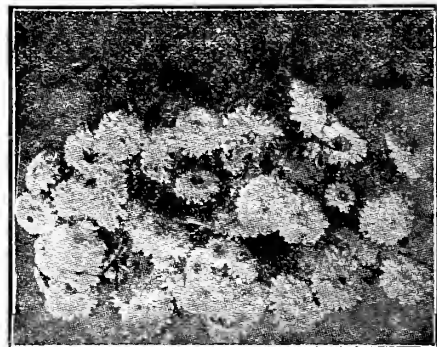
CALLIOPSIS.—These will grow luxuriantly in any situation and are most useful, affording a constant supply of richly marked flowers for cutting. All varieties are annuals.

Drummond.—Large, rich, golden yellow flowers with chestnut-brown centers produced in abundance. Height 18 inches. Pkt. 10c.

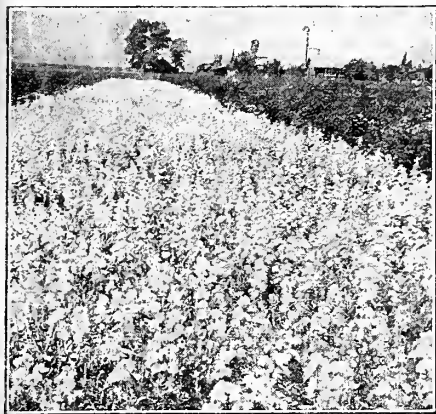
Tintoria.—Showy, yellow and brown flowers, height 2½ to 3 feet. Pkt. 10c.

Radiata Tiger Star.—A rich and continuously blooming annual with pretty, peculiar flowers. The petals of each flower are twisted like those of the well known Cactus Dahlia. Toward the center they show a vivid reddish brown coloration, the outer part being brilliant golden yellow tinged. The plants reach a height of about 8 inches and form round compact bushes which are throughout the summer literally covered with pretty flowers. Pkt. 10c.

Tall Mixed.—Very showy. Height 2 to 3 feet. Pkt. 10c.



Bellis Perennis (Double Daisy)



Candytuft

CANDYTUFT (Iberis).—A hardy annual, growing about 6 to 18 inches high, according to the variety. The blossoms are borne on variously long spikes, and the newer varieties are quite large-flowering and very fragrant. Of easy culture and valuable for bedding or massing.

New Giant White Hyacinth Flowered.—A giant Candytuft, bearing immense snowy white spikes the blooms of which often measure 10 inches or more. Don't fail to give this a trial. Pkt. 10c.

Coronara Empress.—Large trusses of pure white flowers, the finest candytuft yet raised. Pkt. 10c.

CALIFORNIA POPPY.—See Eschscholtzia.

CANARY BIRD FLOWER (Tropaeolum Canariense).—A tender, climbing annual of the nasturtium family. Blossoms have curiously winged petals and are light yellow. Pkt. 10c.

CANNA.—See Bulbs.

CANNA.—Mixture of the popular varieties, red and yellow flowers. Plants have large ornamental leaves.
Crozy's Varieties.—Mixed New large-flowered and free-blooming sorts. Pkt. 10c.

CANTERBURY BELLS (Campanula Medium).—A hardy perennial, blooming the second year from seed, or the first if sown early. Grows about three feet high.

Calycanthema.—A variety of Canterbury Bells having large semi-double flowers each resembling a cup and saucer.

Mixed.—Pkt. 10c.

Single Blue

Single White

Pkt. 10c.

Single Pink

Single Mixed

Double Mixed.—Pkt. 10c.

CARDINAL CLIMBER.—A new climber of great merit, bearing a mass of small crimson flowers. Height 10 to 15 feet. Pkt. 15c.

CELOSIA.—Very ornamental and strong plants, producing magnificent spikes of feathery looking flowers. They succeed well in the garden and make very attractive pot plants.

Childi Woolflower.—A new annual of great merit. As the name suggests, the flower resembles huge balls of crimson wool. When cut, if it is hung head down, until dry, makes a beautiful everlasting flower. Height 15 inches. Pkt. 15c.

Thompsoni Magnifica.—A very fine selection of the popular feathered Celosia containing many pleasing shades of color varying from pale yellow to the deepest crimson. Pkt. 10c.

CELOSIA CRISTATA (Cockscomb).—This is too well known to need description. We offer it in the following:

Dwarf Empress.—A handsome strain, large and compact heads; color splendid crimson. Height 10 inches. Pkt. 15c.

CASTOR OIL BEAN.—See Ricinus.

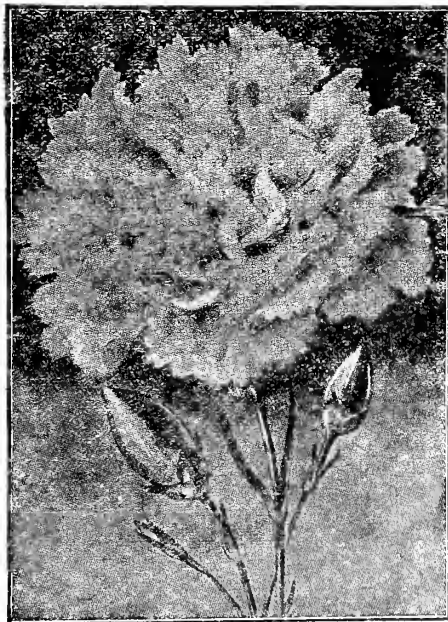
CARNATION.—Our strain of these popular flowers is unsurpassable in beauty and variety of coloring, also in their delightful fragrance. For largest, richest flowers, we recommend their culture in pots of rich soil or small, shallow boxes. Cover the seed lightly, and shade from the strong rays of the sun. When the young plants are two or three inches high, they may be transplanted out into small beds. Shade and water them until established. Then they can be planted out in well-prepared beds, 12 to 18 inches apart. While the weather is cool, the grounds should be mulched about 2 inches deep with well-rotted manure. This will not only help to retain the moisture in the ground, but also supply nutriment to the plants. The seed may be sown any time between March and September.

Chabaud Earliest French.—From the ease with which this fine carnation can be flowered as an annual it has attained a popular position, and will continue to hold a foremost place in the garden. The beautiful fringed double flowers make a brilliant display of attractive coloring in the open and are greatly prized in borders and for table decoration. Mixed colors. Pkt. 15c.

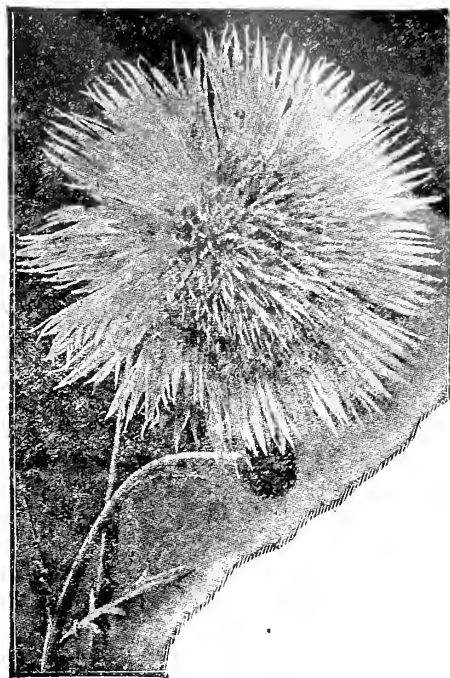
Grenadin Scarlet.—A valuable early-flowering variety coming quite true to color and producing an exceptionally large percentage of sweet scented double scarlet flowers of a most telling color. Pkt. 10c.

Marguerite Pure White.—An exquisite sweet scented fringed flower of pure white color. Invaluable for bedding or indoor decoration. Pkt. 10c.

Marguerite, Mixed Colors.—Very varied; gives a large percentage of fine double flowers. (Pkt. 10c).



Carnation Chabaud's



Centaurea Imperialis

CENTAUREA IMPERIALIS (Royal Sweet Sultan).—This is the variety so popular in the florist's store. The plants are of spreading habit and one plant has been known to keep a home replenished with cut flowers during the entire summer. We offer it in the three distinct shades. Height, 3 to 4 feet.

Imperialis Pure White.—Pkt. 10c.

Imperialis Lavender.—Pkt. 10c.

Imperialis Purple.—Pkt. 10c.

All Colors Mixed.—Pkt. 10c.

CENTAUREA CYANUS (Corn Flower of Bachelor's Button).—This old fashioned flower is still a great favorite for cutting purposes. We call special attention to our new Double Blue which is a great improvement on the single variety.

Double Blue.—The same pleasing shade of blue but of much more substance than the single kind. Height 2 to 3 feet. Pkt. 10c.

Single Blue.—The rich deep blue Bachelor's Button. Pkt. 10c.

Single Mixed.—Contains various shades of pink, white and blue. Pkt. 10c.

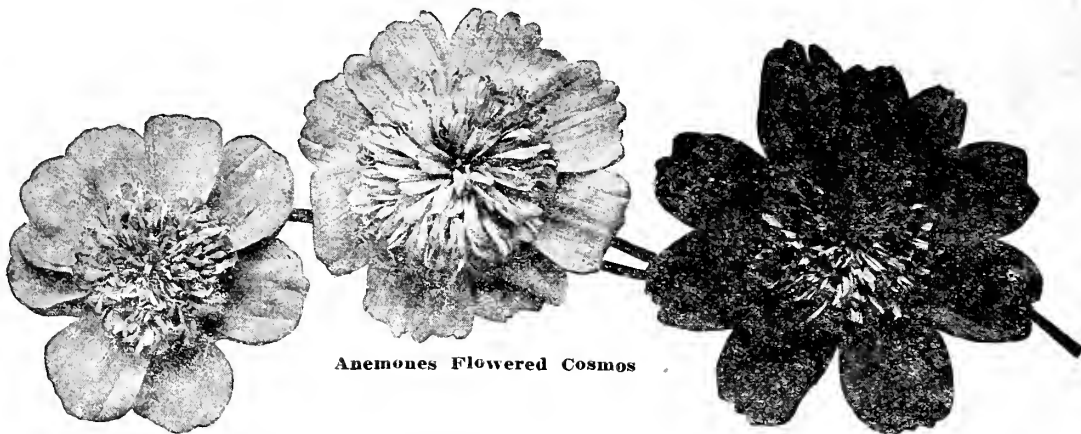
CENTAUREA CANDIDISSIMA (True Dusty Miller).—Broad silvery white foliage; useful for edging. Height, 12 inches. Pkt. 10c.

CINERARIA.—A tender perennial, grown principally in the greenhouse, but can be grown in the garden in summer. Seed should be sown in summer, and the greenhouse requires only moderate heat. Plants grow from 1 to 2 feet high and bear clusters of large, single flowers of bright colors. Will do well in a partly shaded location.

Cineraria Hybrida Grandiflora.—The mixture includes every conceivable shade of pink, carmine, crimson and blue, varying to violet, as well as pure white, and blue and white. The flowers are of immense size. Pkt. 35c.

Hybrida.—Choice mixed; splendid strain of compact growth, bearing large exquisitely colored flowers. Pkt. 25c.

CLEMATIS, Paniculata.—A very fine hardy climber; leaves bright and glossy green; flowers small and hawthorne scented, and just covering the plant when in bloom. Excellent for covering trellises, cemeteries or fences. Pkt. 10c.



Anemones Flowered Cosmos

CLARKIA.—A hardy annual of easy culture, growing about 18 inches high and bearing in great profusion. Native of California. Seed sown in the fall will give early blossoms in the spring. Seed can be sown almost any time.

Elegans Double Mixed.—The long sprays of bloom resemble peach blossoms and are very showy when in full bloom. Height, 3 ft. Pkt. 10c.

Pulchella, Single Mixed.—Much more dwarf than the preceding and usually planted for mass effect. Height, 15 inches. Pkt. 10c.

COIX LACHRYMAE ("Job's Tears").—Curious ornamental grass with broad, corn-like leaves and seeds of a light slate color. Valuable for winter bouquets with everlasting flowers. Strings of handsome beads are made from the seeds. Hardy annual; three feet high. (Pkt. 10c) (oz. 30c).

COLEUS.—These beautiful and ornamental foliage plants, producing the most attractive colors, are a most interesting subject to grow from seed. To watch the foliage change into a variety of colors as it grows day by day, is wonderful. Pkt. 15c.

COBEA SCANDENS (Cup and Saucer Vines).—A climber of rapid growth; very valuable for covering trellises, arbor, trunks of trees, etc. Will cling to any rough surface, often attaining a height of 30 to 40 feet in one season. **Scandens Purpurea.**—Large bell-shaped purple flowers. Pkt. 10c.



Double Flowered Cosmos

COSMOS.—A tender annual with fine-cut, feathery foliage and large, showy blossoms. Cosmos are now divided into two distinct classes, the early and late varieties. The early flowering will bloom in June and if cut back will bloom again in September. The late blooms in the fall or about November 1st. Plant out in the open where the flowers are intended to bloom.

Crested or Anemone Flowered Cosmos. This variety has a decidedly double center with outer guard petal as shown in the above cut. This is made from an actual photograph of these flowers. Pkt. 15c.

New Gigantic Orchid Flowering Lady Lennox.—Size, 6 inches in diameter, with wide overlapping petals of an exquisite shade of shell pink. The flowers are on long stems, making them exceptionally desirable for cutting. Height, 5 to 7 feet. Pkt. 10c.

Late Giant Crimson.—(Pkt. 10c) (oz. 30c).

Late Giant Pink.—(Pkt. 10c) (oz. 30c).

Late Giant Mixed Colors.—(Pkt. 10c) (oz. 30c).

New Mammoth Early Flowering Mixed. An improved early type which blooms 60 days after planting. The immense blooms often measure 6 inches in diameter and come in a mixture of white, pink and crimson. For florists or the private garden this variety is certainly the best. (Pkt. 10c) (oz. 50c).

DOUBLE COSMOS

We have secured a small amount of seed of these beautiful double Cosmos. This is one of the finest of recent novelties and most exquisite of all for cut flowers.

Double Crimson.—Pkt. 25c.

Double Pink.—Pkt. 25c.

Double White.—Pkt. 25c.

CONVOLVULUS OR MORNING GLORY.—Free flowering, beautiful climbers with rich and varied colored flowers, very useful for covering lattice work, verandas, etc., where they are exceedingly effective. Soak the seed for several hours in warm water before planting.

Major Tall Mixed.—Attains a height of 15 feet or more and comes in shades of Rose, Crimson, Blue and White. (Pkt. 10c) (oz. 20c).

Minor Dwarf Mixed.—A beautiful hardy bedding and border plant, attaining a height of about 1 foot. (Pkt. 10c) (oz. 20c).

Imperial (Imperial Japanese Morning Glory).—The best Morning Glory for strong growth and varying colors. Height, 15 to 20 ft. (Pkt. 10c) (oz. 25c).

CORNFLOWER.—See Centaurea.

COREOPSIS.—See Calliopsis.

COREOPSIS (Lanceolata Grandiflora).—A hardy perennial bearing a profuse and long-continued succession of large, bold, golden yellow flowers during the whole summer months. Seed sown in March will flower the same season. Height, 2½ feet. Pkt. 10c.

CYCLAMEN.—A tender, bulbous perennial, used in greenhouses and window gardens. It is easily grown from seed. Sow in the fall or early spring.

Persicum Giganteum.—Flowers of extraordinary size. The leaves are proportionately large, marked with silver-grey. Extra choice mixed. Pkt. 25c.

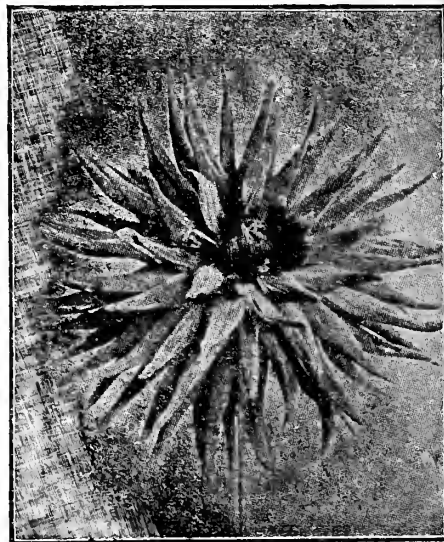
CYPRESS VINE (Ipomea Quamoclit).—A tender climbing annual with soft fern-like foliage and small star-like flowers. Choice mixed colors. Pkt. 10c.

DAHLIA.—Although not generally known Dahlias are easily grown from seed. If planted early in a hot bed and transplanted when danger of frost is past they will bloom the first season and make large bulbs by the next fall.

Cactus, Choice Mixed.—Our mixture contains many of the recent novelties. Giants with pointed petals. Pkt. 10c.

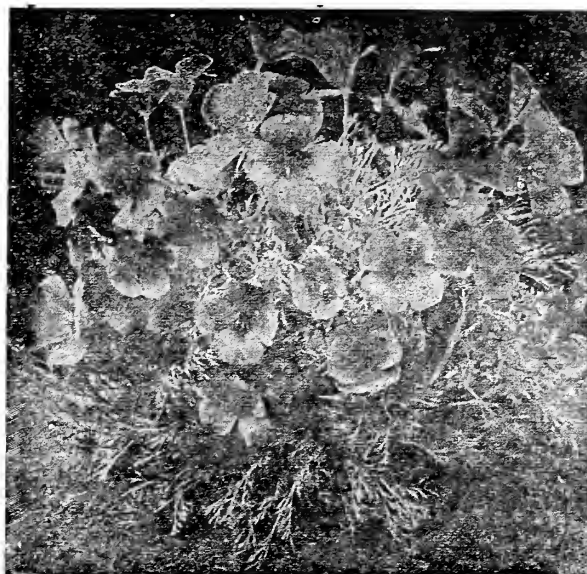
Double.—Choice mixed colors in great variety and flowers of excellent form. Pkt. 10c.

Single Mixed.—Seed saved from the choicest varieties. Pkt. 10c.



Dahlias, Cactus, Choice Mixed

Golden West.—This is an improved strain over the wild poppy. Can be planted any time of the year and is a perennial if kept well watered. Color is a deep orange yellow. (Pkt. 10c) (Oz. 30c) (lb. \$3.)



Eschscholtzia California Poppy

DAISY, SHASTA DAISY.—A fine perennial plant bearing large white single blossoms, with yellow centers. Soak seed in warm water over night before sowing. Pkt. 10c.

DAISY, DOUBLE.—See Bellis.

DATURA (Trumpet Flower).—Tender annual, growing about 3 feet high, flowers large and trumpet shaped. Choice mixed colors. Pkt. 10c.

DELPHINEUM OR PERENNIAL LARK-SPUR.—Beautiful, hardy border perennials with noble spikes of handsome flowers; very useful for cut flowers, etc. Sow in the spring or early fall in seed beds or boxes and transplant when large enough.

Elatum Hybridum Mixed.—Large, handsome flower spikes, including the best of the new double and single varieties; height, 3 feet. Pkt. 10c.

Formosum.—Rich blue flowers, exceedingly effective in borders; height, 3 feet. Pkt. 10c.

Blue Butterfly.—A distinct variety which blooms from seed the first season. The large single spikes are of a rich Salvia Blue and make a splendid cut flower. Height, 18 inches. Pkt. 10c.

DIANTHUS, OR PINKS.—Hardy annuals, about 1 foot high, and bearing beautifully colored single and double blossoms in profusion all summer. Sow seed early in boxes and transplant, or sow in rows where the plants are to remain, and thin.

CHINENSIS OR CHINESE PINK.—This comes in a large range of colors and is used largely for massing in beds. Mixed.—Pkt. 10c.

HEDDEWIGI OR JAPANESE PINKS.—A good variety for bedding or cutting. The single or double flowers are very showy.

Mixed.—Pkt. 10c.

PLUMARIUS (Grass Pink).—Hardy perennial producing large fragrant double, semi-double and single flowers of varied colors. Pkt. 10c.

JUSTY MILLER.—See Centaurea Candidissima.

DIGITALIS, OR FOXGLOVE.—A hardy perennial, blooming the second year from seed. Grows usually about 3½ feet, although in very rich soil sometimes 6 feet. The bell shaped flowers are borne on long spikes, and come in shades of purple, lavender, rose and white, all spotted lightly inside the blossom. Thrives best in cool, shady locations. Fine Mixed.—Pkt. 10c.

DIMORPHOTHECA AURANTIACA.—The Golden Marguerite. A rare and extremely showy annual from South Africa which has become a great favorite on account of its easy culture and beautifully colored flowers. Its Marguerite-like blossoms, produced in great profusion, are 2½ to 2¾ inches in diameter. These are a unique glossy rich orange gold, which brilliant coloring is rendered more conspicuous by the dark disk surrounding the black zone. Pkt. 10c.

DOLICHOS, OR HYACINTH BEAN.—Tender, climbing annual. Grows rapidly and is valuable for covering a trellis. Flowers in purple or white; are borne on long stems, the individual blossoms resembling the bean flower, and the ornamental pods resemble bean pods. Sow seed in open ground late in April. Lablab.—Mixed. (Pkt. 10c).

EVERLASTING FLOWER.—See Helichrysum.

EVERLASTING PEAS.—See Lathyrus Latifolius.

BUSH ESCHSCHOLTZIA.—See Hunnemannia.

FLAX.—See Linum.

FLOWERING SAGE.—See Salvia.

FOXGLOVE.—See Digitalis.

FUCHSIA (Lady's Eardrop).—A well known plant of easy culture in pots for the conservatory, parlor decoration or the open ground. Start seed early under glass. Double Mixed.—Pkt. 25c.

FOUR O'CLOCK (Mirabilis).—A hardy annual of easy culture, growing about 2 feet high. The plant is free flowering, bearing blooms of a great variety. Mixed.—Pkt. 10c.

ESCHSCHOLTZIA OR CALIFORNIA POPPY.—A hardy annual with fine-cut feathery foliage and beautiful velvety cup-shaped flowers. Grows from 1 to 1½ feet high and blooms profusely. Seed may be sown in the fall and any time thereafter till April, and blossoms may be had from early in January till late in summer. The beautiful State flower of California.

Californica.—The bright, orange-yellow common variety. (Pkt. 10c) (oz. 25c).

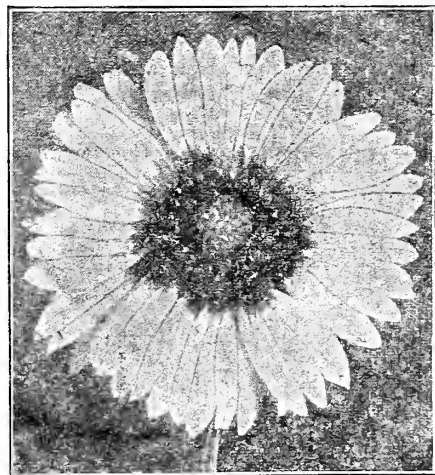
Crimson Improved.—A deep rich crimson. Very choice. Pkt. 10c.

Mixture of All Varieties.—(Pkt. 10c) (oz. 30c) (lb. \$3.00).

FORGET-ME-NOT (Myosotis).—A hardy perennial, growing 6 to 12 inches high. Small star-like flowers are borne in clusters on long stems; blooms the first year if seed is sown early. Thrives best in a cool, moist location.

Alpestris.—Blue. Pkt. 10c.

Victoria.—Large flowers; bright azure blue with yellow center; plant symmetrical, dwarf and strong grower. Pkt. 10c.



Gaillardia

GAILLARDIA.—Beautiful show plant, remarkable for the profusion, size and brilliancy of its flowers continuing in bloom from early summer till late in the fall. Excellent for beds, borders, or for cutting. Should be sown where they are to bloom, height 18 inches.

Grandiflora.—Single perennial variety of varying shades of reddish brown and yellow. Pkt. 10c.

Picta Lorenziana Double Mixed.—Large heads of bright yellow and red flowers. Very double, with quilled petals, suitable for bouquets. Pkt. 10c.

GODETIA.—A hardy annual, 15 inches high, of compact growth, satiny cup-shaped flowers in deep red, pink and white, shaded and blended. Valuable for bedding. Sow seed early in the year.

Semi-Dwarf Mixed.—Including all the finest varieties. Pkt. 10c.



Gerbera

GERBERA—New Hybrids.—Large daisy-like blossoms with flower stems rising to a height of about two feet. Colors range from white to crimson, pink, rose, yellow and lilac shades. Flowers both summer and winter. Start carefully under glass and grow in a sandy, well drained soil if possible. Pkt. 25c.

GERANIUM.—A half-hardy perennial, flowering the first year from seed if sown early. A gorgeous flower of numerous shades of color; bearing continuously renders this one of the most popular plants grown.

Large Flowers of Fancy Show.—This choice mixture includes many of the newest and finest sorts. Pkt. 25c.

GLOXINIA.—Beautiful hot-house plants, with large, bell-shaped blossoms, which come in rich, velvety-deep, and bright colors, some of which are beautifully marked. Sow in the fall or early spring.

Hybrida Grandiflora.—Enormous flowers. Pkt. 25c.

GYPHOPHILA (Baby's Breath).—A hardy annual of easy culture. Grows two or three feet high, and bears a profusion of small star-shaped white and pink flowers.

Paniculata.—Fine for bouquets; white flowers perennial. (Pkt. 10c).

Elegans.—Annual white. Very largely grown by florists for use in bouquets. (Pkt. 10c).

Elegans Carmine.—A recent introduction of a deep carmine rose. Pkt. 10c.

HELIOTROPE.—A half-hardy perennial growing four to eight feet high. Small flowers, borne in graceful clusters and very fragrant. Blooms the first season from seed if sown early. Forms a large plant and requires a roomy situation.

Finest Mixed.—A mixture of the ordinary true types in shades of white mauve and purple. Pkt. 10c.

HOLLYHOCK.—A hardy perennial of upright, stately growth, five to eight feet high, unequalled for a background or covering ugly places. Seed sown in seed beds or boxes in the spring. May be planted out when large enough and will bloom the following year. The following are saved from large double-flowering varieties:

Double White.

Double Yellow.

Double Pink.

Double Black.

Double Mixed.

Any of the above, Pkt. 10c.

Allegheny.—This unique and beautiful variety produces semi-double flowers about 3 inches across. The petals are crinkled and fringed like crumpled and slashed satin. Pkt. 10c.

New Annual Mixed.—A new departure in Hollyhocks. Seed sown in the Spring will bloom the first year. Pkt. 10c.

HUNNEMANNIA, OR BUSH ESCHSCH-OLTZIA.—Known also as the Santa Barbara Poppy. An erect-growing, tender perennial, about two feet high. Foliage fine-cut, feathery blossoms, beautifully cup-shaped, bright yellow and about three to four inches across. Stems, long and smooth. Unlike the average Poppy Hunnemannia will keep for several days in water and makes a splendid cut flower. Pkt. 10c.

Acroclinium.—Double Mixed Flowers, pure white and soft pink, with golden centers. Should be cut the first day they open. Pkt. 10c.

Ammobium Alatum.—Flowers pure white and very double. Great bloomer. Pkt. 10c.

Gomphrena.—Entirely different in appearance from any other everlasting flower and very attractive. Has a globe-shaped flower.

Pink.—Pkt. 10c.

Red.—Pkt. 10c.

Orange.—Pkt. 10c.

Helichrysum, Straw Flower.—A free-flowering, hardy annual, growing four or five feet high and bearing beautiful straw-like flowers in a great variety of shades and color. Pkt. 10c.

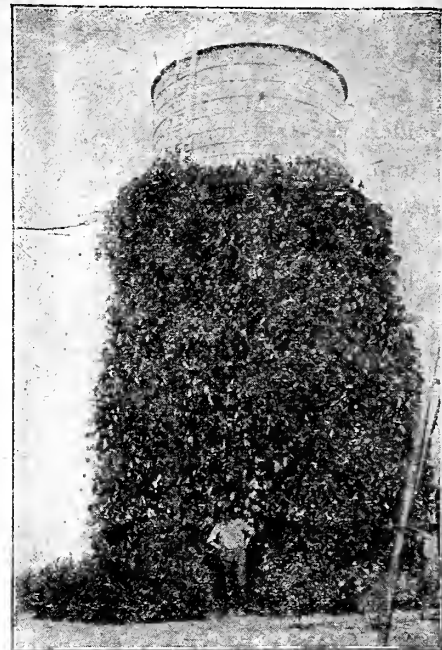
Statice, Sinuata.—An annual deserving far greater popularity. They make a charming winter bouquet when mixed with Helichrysum.

Blue.—Pkt. 10c.

Rosea.—Pkt. 10c.

White.—Pkt. 10c.

Mixed.—Pkt. 10c.


KUDZU VINE (Pueraria Thumberglana).
2 years old

Nothing better than the Kudzu for a rapid growing vine for an arbor; besides, it may be trimmed frequently for stock feed. All kinds of animals eat it readily. It is especially good for milch cows and goats. (Pkt. 10c) (oz. 50c).

HELIANTHUS.—See Sunflower.

IPOMOEA (Moonflower).—An extensive genus, including many well known garden flowers. These are tender climbing annuals from 5 to 30 feet long. The seed of several varieties, especially the moon flower, should have the outer shell punctured and then soaked in water for twelve hours or more to germinate it.

Bona Nox (Evening Glory).—Rosy lilac flowers, expanding in the evening; of very rapid growth. Pkt. 10c.

Coccinea.—Brilliant scarlet flowers with small foliage. Pkt. 10c.

Grandiflora Alba.—Large flowers of pure white. Pkt. 10c.

Leiril.—Violet and blue flowers. Pkt. 10c.

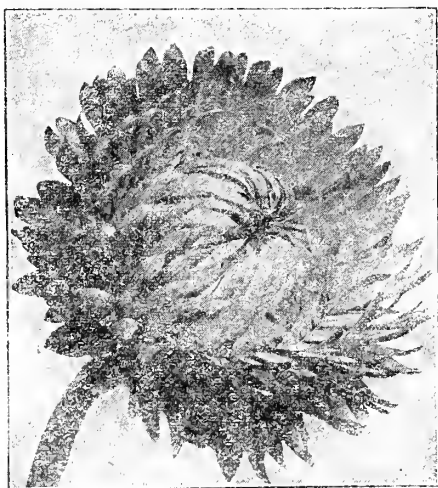
IPOMOEA IMPERIALIS.—See Morning Glory.

IPOMOEA QUAMOCLIT HYBRIDA.—See Cardinal Climber.

JOB'S TEARS.—See Coix Lachryma.

KENILWORTH IVY.—Unsurpassed for hanging baskets. A rapid grower, with long graceful vines covered with small leaves and violet tinted white flowers. Pkt. 10c.

KOCHIA TRICOPHYLLA (Summer Cypress).—A splendid ornamental annual plant, forming dense oval bushes, 2 to 2½ feet high, of small, feathery, light green foliage. As summer advances this changes to a carmine hue and finally to a fiery red. A very attractive plant at all times. Also called "Burn ing Bush." Pkt. 10c.



EVERLASTING FLOWERS

Flowers of eternal beauty. Highly prized for winter decorations. Should be cut when partially expanded and hung head downward until thoroughly dry.

LARKSPUR.—A useful annual for the border or for cut flowers. The double flowering varieties we offer are a great improvement on the old single kinds. Height, 3 feet.

Double Stock Flowered Lustrous Carmine.—An entirely new shade. Color a bright rosy carmine. Pkt. 10c.
Double Stock Flowered, White
Double Stock Flowered, Lilac.
Double Stock Flowered, Deep Blue.
Double Stock Flowered, Mixed.
 Any of the above, Pkt. 10c.

LANTANA.—Tender perennial, growing from to 3 feet high, bearing Verbena-like clusters of flowers, in orange, white, rose and other colors, excellent for bedding.

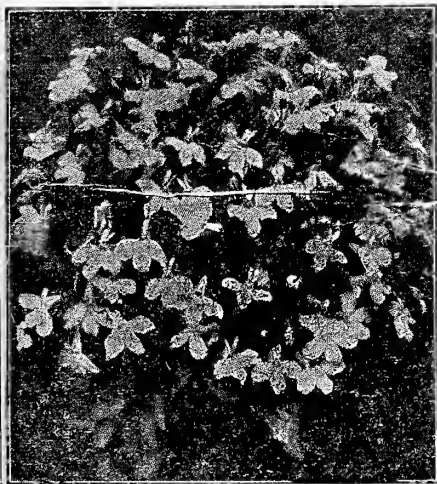
Choice Mixed.—Pkt. 10c.

LATHYRUS LATHIFOLIUS (Everlasting Pea).—A hardy, perennial climber of great beauty with elegant sweet pea-like flowers in great profusion; height, 6 to 8 feet.

Red.—Pkt. 10.
Fine Mixed.Pkt. 10c.

LINUM, OR SCARLET FLAX.—A hardy annual, about one and one-half feet high. Of slender and graceful appearance, with smooth stems and bright red flowers, which are borne in great profusion. Can be sown early out of doors, and thrives well in good soil.

Rubrum.—Pkt. 10c.



Lobelia Crystal Palace

LOBELIA.—A hardy annual and perennial. The annual grows four to six inches high, is of compact growth, and literally covered with small bright flowers. By cutting back the plants during the summer and giving plenty of water they may be kept in flower all summer. Used for ribbon work and borders or hanging baskets.

Bernard's Perpetual.—Flowers brilliant ultramarine blue, with a pure white mark at the base of each of the two lower petals; height, 6 inches. Pkt. 10c.

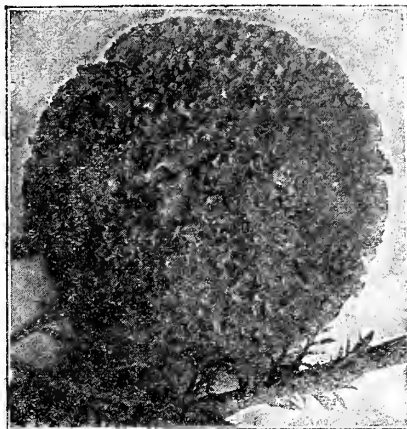
Crystal Palace.—Undoubtedly the finest dwarf blue Lobelia for bedding. Plants very compact, profusely covered with rich blue flowers. Height, 4 inches. Pkt. 10c.

Royal Purple.—Dark, bronzy green foliage, flowers rich purple-velvet with clear white eyes. A splendid variety for ribbon borders, window boxes, etc. Height, 6 inches. Pkt. 10c.

LOVE-IN-A-MIST.—See Nigella.

LUPINS (or Lupinus)—In spite of the fact that our Lupin is one of the most common of our native flowers, many people still grow it for its beauty. We offer the annual variety only which is the most easily grown.

Annual Mixed.—Height, 2 feet. Pkt. 10c.



MARIGOLD.—A hardy annual, in dwarf and tall varieties, growing from 6 inches to 3 feet high. The flowers are various shades of yellow and brown. The tall varieties are very valuable for large bedding or background work, and the dwarf varieties for borders.

Dwarf French Legion of Honor.—The color is a dark velvety brown, gracefully surrounded by a distinct gold ring. The compact, bushy plant flowers abundantly and is more lasting than any other annual. Pkt. 10c.

MARIGOLD-FRENCH.—The flowers are much smaller than the African but are greatly prized for bedding.

Tall French Mixed.—In shades of yellow, brown and tricolors. Height, 2 ft. Pkt. 10c.

Marigold Dwarf French Mixed.—Like the above but only 10 inches high. Pkt. 10c.

African Tall Double Orange.—Beautifully formed flowers of gigantic size and bright color; height, 2½ feet. Pkt. 10c.

African Tall Double Lemon.—Like the above but of a pure citrus yellow. Pkt. 10c.

African Tall Double Mixed.—Pkt. 10c.

MARVEL OF PERU.—See Four O'Clock.

MATHIOLA BICORNIS (Night Scented Stocks).—An annual growing about one foot high giving a sweet perfume in the evening. (Pkt. 15c).

MIGNONETTE.—Hardy annual, growing 6 to 12 inches high and bearing pyramid-shaped spikes, exceedingly fragrant. Sow in the fall for early blossoms in the spring. Valuable for plotting, bedding or border.

Allen's Defiance.—Long spikes of whitish flowers and compact growth. Pkt. 10c.

Goliath.—Robust growing variety with enormous spikes of red colored flowers; height, 15 inches. Pkt. 10c.

Machet Mixed.—A dwarf compact variety, with large stubby spikes covered with copper-red flowers, etc. Pkt. 10c.

Sweet Scented (Reseda Odorata).—Pkt. 10c (oz. 50c).

MIMULUS.—A half hardy perennial, growing from 6 inches to 1 foot high. Blooms freely and exists in a large variety of colors. For gardens in a moist, shady situation. Blooms first year from seed if sown early.

Moschatus, or Musk Plant.—Fragrant plant with small yellow blossoms, spotted lightly with brown. Pkt. 10c.

Tigrinus, or Monkey Flower.—Large flowers of several colors, and spotted. Pkt. 10c.

MOONFLOWER.—See Ipomoea.

MOURNING BRIDE.—See Scabiosa.

MYOSOTIS.—See Forget-Me-Not.

MORNING GLORY.—See Convolvulus.

MOMORDICA (Balsam Apple).—A climbing annual, growing about 10 feet long. Has graceful and ornamental foliage, yellow flowers and warted golden yellow fruit, with large carmin-red seeds. Balsam Apple and Balsam Pear are climbers which thrive in hot locations, and are much planted around Bakersfield. Pkt. 10c.

Charantia, or Balsam Pear.—Same as the Balsam Apple, but fruit is pear-shaped. Pkt. 10c.

NASTURTIUM.—These favorite flowers will grow in almost any location and on all kinds of soil. The Dwarf varieties are used for bedding and borders and the Talls for climbing and covering fences, trellises, etc. They continue to bloom until cut down by the frost.

Fine Dwarf Mixed.—Height, 10 inches. (Pkt. 10c) (oz. 20c).

Tall Giant Mixed.—Height, 5 to 10 feet. (Pkt. 10c) (oz. 20c).

NEMESIA STRUMOSA SUTTONI.—This flower is obtainable in numerous shades of beautiful colors and when grown in mass form, gives a fine effect. Sow in a seed bed early in the spring and transplant. Mixed (Pkt. 25c).

NEMOPHILA.—A hardy annual about six inches high. Has small, cup-shaped blossoms about one inch in diameter, in white and shades of blue.

Insignis (Baby Blue Eyes).—Sky blue, with white eyes. (Pkt. 10c).

NICOTIANA, OR FLOWERING TOBACCO.—A half hardy annual, growing 3 feet high, with slender tubular flower. Belongs to the tobacco family. Requires plenty of room in the garden.

Affinis.—White, and very fragrant. Pkt. 10c.

Sandersae.—A new, large, flowering type, with various bright-colored blossoms. Pkt. 10c.

NIGELLA (or Love-in-a-Mist).—A hardy annual, one foot high, with finely cut foliage. Oddly shaped blossoms in blue and white, and curious seed pods. Of easy culture.

Miss Jekyll.—Long stemmed flowers which are of a clear corn-flower blue; elegant foliage; height, 18 inches. Pkt. 10c.

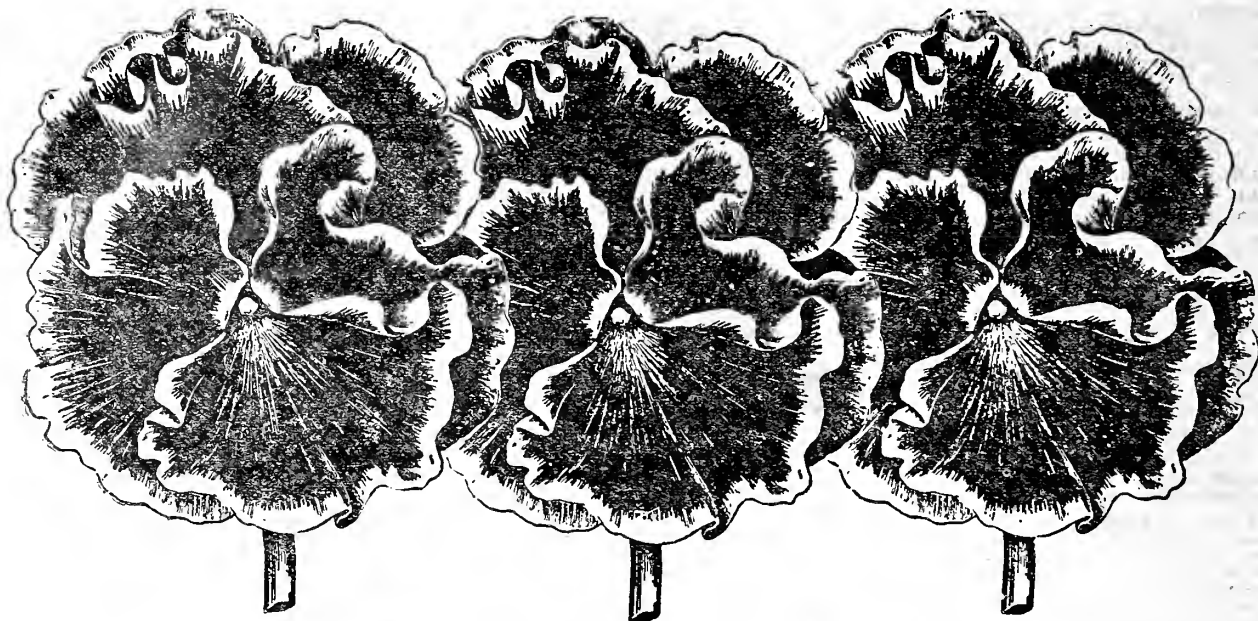
PASSION FLOWER.—A hardy perennial climber, very satisfactory for immense growth, as it will cover a porch or small cottage in one season.

Coerulea Grandiflora.—Sky-blue. Pkt. 10c.

PASSIFLORA EDULIS.—The vine is a very rampant grower, blooms freely. The pulp of the fruit is delicious. Pkt. 25c.



Passiflora Edulis



Steele's Mastodon Pansies

The magnificent giant pansies of the San Francisco Fair. Without a doubt, the most wonderful pansies of the day, with a robust vigor unknown in any other strain. These blossoms are almost four inches across and are of a most wonderful variety of colors and variegations. They bloom from two to four weeks earlier than any other variety of pansies. It is impossible to paint a word picture that will do justice to these flowers. You will never regret it, if you have them in your garden or porch box.

White Mastodon—Snow white with a dark center, very large and beautiful. Pkt. 25c.

Mastodon Mixed—A wonderful collection of rich velvety shades, in great variety, with fine long stems. Pkt. 25c.

Bronze Mastodon—Very large, with all the different shades from burnished brass to gold, with no two flowers exactly alike. Pkt. 25c.

Adonis—Lovely sky-blue. Pkt. 25c.

Madam Steele—Elks purple, of fine form and enormous size. Pkt. 25c.

Panama Pacific—A huge deep yellow; some have the dark center, some without. A beautiful bedding color. Pkt. 25c.

Pansies thrive best in a moist, sunny location and in rich loamy soil. Seed should be sown in the autumn for early spring blossoms, or can be sown early in the year for good flowers later in the spring. The plants must be transplanted twice in order to get the largest flowers; once from the seed box to a chosen bed, and again to the open garden. This is important for large size pansies; use manure liberally. The blossoms are usually larger in the spring and again in the fall, and while they bloom freely all summer, the blossoms are small during the hot months.

A. & M.'s Superb in Separate Colors.

Bridesmaid Giant.—Shades of white shining rose, blotched. Pkt. 15c.

Faust (King of Blacks).—Large, well formed, glossy black flowers. The plants are compact and bloom for a long time. Pkt. 15c.

Giant Pale Blue.—Gigantic blooms of a delicate mauve-blue shade with paler center, freely produced on compact plants. Pkt. 15c.

Giant White (Black Eye).—Large well formed flowers with black center. Pkt. 15c.

Giant Prince Henry.—Dark blue, very large beautiful flower. Pkt. 15c.

Giant White.—Very large, well formed white flowers with dark purple eye. Pkt. 15c.

Giant Yellow (Black Eye).—Large handsome flowers of a rich yellow with black eye. Pkt. 15c.

Peacock.—Handsome flowers of a rich purple. Pkt. 15c.

Pansy Psyche.—Not many of the pansy varieties have such a winning appearance as Psyche. The characteristic five velvety, violet blotches are surrounded by a broad white edge. It is an ideal exhibition or market pansy. Pkt. 15c.

Giant Curled Andromeda.—A charming strain of pansy with elegantly frilled flowers, some so full as to appear double. The color is a very delicate apple-blossom, generally showing a soft lavender blue or rosy lilac hue, rendered still more effective by a somewhat darker veining. The blooms are of immense size. Unusually true to color from seed. A decided acquisition. Pkt. 20c.

A. & M.'s PANSY in Mixtures.

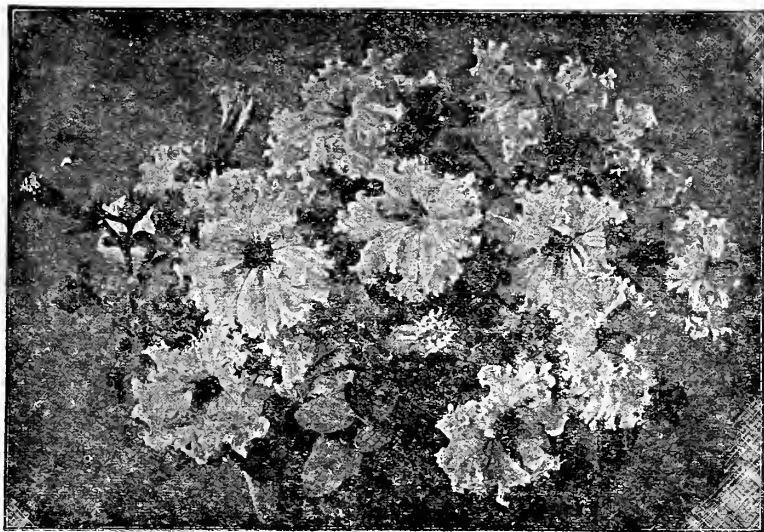
Chicago Bedding.—Large flowered, choice mixed. Pkt. 10c.

Non Plus Ultra.—The richest mixture ever sent out. Contains the Blotched and Masterpiece varieties. Pkt. 25c.

Madam Perret.—Striking and distinct variety of unusually compact habit. The lower petals are generally of canary yellow, white or rose-pink marked with purple or crimson. The upper petals bright red and deep purple or outlined with a margin of white. Pkt. 10c.

Trimardean or Giant Mixed.—A very showy class of vigorous compact growth, flowers of an enormous size; finest strain. Pkt. 10c.

Bedding Pansies for Massing (See Viola).



Ruffled Giant Petunias

PETUNIA.—A splendid race of plants, rich and varied colors, and profuse flowering with their charming and tender looking flowers, they are very beautiful for groups in the open. Sow seed early in spring, scatter thinly on an even surface and barely cover the seed with sand. If intended for the open ground plant out into a frame to be kept till planting-out time. If for pots, pot singly into small pots in strong rich soil mixed with sand and shift as the plants grow larger.

Grandiflora Single Mixed.—Exceedingly handsome and free flowering, containing the greatest variety of colors, yellow throated, veined and blotched. Very large flowers. Pkt. 15c.

Hybrida Fine Mixed.—The best Petunia for massing in beds and borders, yielding a profusion of brilliantly marked flowers. Pkt. 10c.

Ruffled Giant Petunias.—A beautiful deep throated new strain with flowers that are ruffled, fluted and fringed. Solid intense colors. Pkt. 25c.

Superb Double Fringed Mixed.—One of the finest strains of Petunias in existence. The double flowers are very large, full and symmetrically formed, having the edges of the petals beautifully fringed. Pkt. 35c.

PHLOX DRUMMONDII. Grandiflora.—A hardy annual, growing from six inches to one foot high and bearing beautiful, soft-petaled and brilliantly colored flowers all spring and summer. Fine for bedding and massing. Sow seed in the open ground.

Drummondii Fireball.—Habit similar to the Snowball; color brilliant red; flowers profusely. This and Snowball are two of the most effective varieties of Phlox in existence. Height, 1 foot. Pkt. 10c.

Drummondii (Dwarf Snowball).—A dwarf, compact and very free blooming Phlox. Flowers large and pure white. An excellent companion to Fireball. Height, 1 foot. Pkt. 10c.

Finest Mixed.—Pkt. 10c.

Perennial.—Indispensable for border plant. Seed saved from the finest bright colored flowers. Height, 2 feet. Pkt. 10c.

PENTSTEMON

Hartwegi Hybrida Mixed.—The large Gloxinia shaped blooms vary from pure white, pink, rose and crimson to mauve and purple, including many which are beautifully edged. Hardy perennials. Height, 2 feet. Pkt. 10c.

POPPIES.—The different varieties of poppies are always favorites for outdoor display and the cultivation of them being so extremely simple entitles them to a place in every garden. Seed should be sown where the plants are intended to flower, because it is difficult to transplant them with any measure of success. During March or April sow in row or groups and thin to about 1 foot apart.

Flanders Poppy.—The famous poppy of Flanders field. A single annual of blood red color. Abundant in the fields of Europe. Pkt. 10c.

Shirley.—The most charming poppy in cultivation. The blossoms are bright and showy and include an almost endless variety of colors, from pure white, pink, terra cotta, salmon, chamais, and rosy carmine, to brilliant crimson, many of the flowers being beautifully flaked or edged with white. (Pkt. 10c).

Carnation Flowered Double Mixed.—Choice assortment of brilliant colors. Flowers very double and well fringed. The plants grow to a height of 4 feet and bear immense carnation-like blooms 6 to 8 inches across. (Pkt. 10c).

Nudicaule, Iceland Poppy.—A beautiful class of perennial poppies. Sow in March and they will flower the same year. The beautiful large blossoms are borne on wire-like stems above the beautiful fern-like foliage, with a great variety of colors. The Iceland Poppy has the most lasting qualities, as a cut flower, than any other poppy.

Single Mixed.—Pkt. 10c.

Double Mixed.—Pkt. 10c.

PORTULACA.—Beautiful race of dwarf plants for rock work or dry sunny locations, bearing glossy cup-shaped blossoms in brilliant colors.

Double Mixed.—Saved from the finest flowers only, and will produce a large percentage of doubles. Pkt. 10c.

Single Mixed.—Large flowers. Pkt. 10c.

PYRETHRUM.—Handsome plants of easy culture. Invaluable for bedding purposes, especially for ribbon borders.

Golden Feather.—Fine compact habit of growth, with bright yellow foliage, largely used for edgings and ribbon borders. Height, 9 inches. Pkt. 10c.

Roseum Hybridum.—A hardy perennial, with red petaled flowers radiating from a golden yellow center. Bubach, or insect powder, is made from the dry leaves. Useful as a cut flower. Height, 15 inches. Pkt. 10c.

RICINUS (Castor Oil Plant).—Effective for semi-tropical garden. Easily raised from seed, and should be grown in deep, rich soil.

Ricinus Gibsoni.—A very fine variety with rich, lustrous, red foliage. Height, 5 feet. (Pkt. 10c).

ROMNEYA COULTERII (California Tree Poppy).—Also well known as the Matilija Poppy; perennial. It is of value as a cut flower, lasting well in water, and its delicate primrose-like perfume is most acceptable. They never lose the crumpled folds that in the case of most poppies betoken newly-opened state. Flowers are four to five inches across, pure white, with a fine bunch of yellow stamens, resembling white, single Paeonys. Pkt. 10c.

RUDBECKIA (Golden Glow).

Coneflower.—Fine free flowering annual variety, forming a dense bush and producing in great abundance on long stems its bright flowers. The disc is brown, the flowers golden yellow, with large variety brown spots at the base. Very effective and useful for cutting. Pkt. 10c.

SALPIGLOSSIS

Fine Mixed.—Highly ornamental half-hardy annual with large, veined, funnel-shaped flowers; much prized for cutting; very showy in beds or border. A bed of these beautiful plants is one of the most striking features of the garden during July and August. Pkt. 10c.

SALVIA, OR FLOWERING SAGE.—A tender perennial blooming the first season from seed and growing two or three feet high. The blossoms are borne on long stems in racemes or spikes, and are fragrant.

Splendens.—Gorgeous plants, with numerous flowers, which are displayed with striking effect against the deep green foliage. A bed of this flower is exceedingly beautiful during the autumn. Height, 2 feet. Pkt. 10c.



SCARLET RUNNER.—A variety of climbing bean having rich scarlet blooms and most useful for decorative purposes in covering arbors and unsightly structures. The pods are also appreciated as an addition to the vegetable list. Pkt. 10c.

Sweet Peas

We are headquarters for strictly high-grade sweet pea seed; they are the best that money can buy.

CULTURE—Sweet Peas will thrive on most any kind of soil if enriched with well-rotted manure, but a heavy clay soil produces best results. Ample arbor should be provided to attain highest perfection of bloom. The vines will grow eight feet tall and become a solid mass of bloom, which should be cut every day to prolong the life of the plant. Apply from time to time some Blood Meal fertilizer, and water abundantly, but see that there is good drainage, that the roots do not rest in wet, sour earth.

NEW GIANT SPENCER OF GREAT MERIT

Fiery Cross.—Giant waved flowers of an intense Orange Scarlet. The color is not at all affected by our hot California sunshine and therefore needs no shading. Pkt. 15c.

Constance Hinton.—A giant frilled Black-Seeded White. The stems, bearing four immense blossoms, are often 12 inches in length. Undoubtedly the best White Sweet Pea. Pkt. 15c.

Illuminator.—A glowing Cerise-Salmon shaded with bright orange. The flowers are large and wavy. One of the most beautiful of new Spencers. Pkt. 15c.

Warrior Spencer.—Deep Chocolate, almost Black, unequalled for mixing with other shades for bouquets and table decoration. The darkest Sweet Pea, yet introduced. Pkt. 15c.

King White.—Sometimes called "The Perfect" White Spencer, superior in size, form and substance to all other whites, with beautifully waved, four-flowered sprays. Pkt. 15c.

Apple Blossom Spencer.—Standard bright rose, wings primrose with a flush of pink. (Pkt. 5c).

Asta Ohn, Spencer.—Soft pinkish lavender self. Very large and wavy. (Pkt. 15c.)

American Spencer.—Scarlet striped with white. (Pkt. 15c.)

Black Knight, Spencer.—Deep maroon, very large. (Pkt. 15c.)

Blue Jacket Spencer.—A deep navy-blue. Quite distinct. (Pkt. 5c.)

Clara Curtis, Spencer.—Very large, wavy cream or light primrose. (Pkt. 15c.)

Countess Spencer.—"Hybrid," a very large flowered variety, a lovely shell pink. Flowers usually four on a stem. (Pkt. 15c.)

Dainty Spencer.—White with pink wavy edges. (Pkt. 15c.)

Elfrida Pierson Spencer.—Shell pink with immense waved blossoms. (Pkt. 15c.)

Etta Dyke Spencer.—Very large wavy, pure white. (Pkt. 15c.)

Early Red Wing.—A bright glowing crimson of beautiful shade. (Pkt. 15c.)

Early Rose Morn.—Beautiful rose-crimson flowers borne on long stems. (Pkt. 15c.)

Florence Morse Spencer.—Delicate blush with pink margin; very large and one of the best Spencer varieties. (Pkt. 15c.)

Florence Nightingale.—A soft, rich lavender, faintly shaded rose; wings well frilled and waved. (Pkt. 15c.)

Geo. Herbert Spencer.—A large Spencer rose crimson, suffused with magenta. (Pkt. 15c.)

King Edward Spencer.—Most beautiful and richest of all the red shades. This large beautiful waved flower stands by itself, a bright crimson. (Pkt. 15c.)

Loyalty Spencer.—Bright blue striped on white. (Pkt. 15c.)

Margaret Madison Spencer.—Beautifully wavy apricot on cream. (Pkt. 15c.)

Mrs. Hugh Dickson Spencer.—Beautifully wavy dark and adapted for many attractive combinations. (Pkt. 15c.)

Giant Spencer Mixed.—A splendid mixture of all the different Spencer types. (Pkt. 15c) (oz. 60c).

Selected Grandiflora Types.—The hooded type of Sweet Peas which are much more fragrant than the Spencers though lacking in size of bloom.

Mixture representing all shades.—(Pkt. 5c) (oz. 25c) (lb. \$2.00).

WINTER FLOWERING SWEET PEAS.—A valuable race of early flowering sweet peas, which from a September sowing will give an abundance of blooms from Christmas onward. On account of their delightful perfume, sweet peas are particularly welcome during the days of winter.

A. & M. Xmas Dark Blue.—(Pkt. 10c) (oz. 25c.)

A. & M. Xmas Lavender.—(Pkt. 10c) (oz. 25c.)

A. & M. Xmas Pink and White.—(Pkt. 10c) (oz. 25c.)

A. & M. Xmas Soft Pink.—(Pkt. 10c) (oz. 25c.)

A. & M. Xmas White.—(Pkt. 10c) (oz. 25c.)

A. & M. Xmas Mixed.—(Pkt. 10c) (oz. 25c.)

Perennial or Everlasting.—See Lathyrus.

EARLY FLOWERING SPENCERS.—For Winter flowers start planting from August 15th to November 15th. Will flower in 90 days.

Bohemian Girl Deep Pink. (Pkt. 25c.)
Blanche Ferry Pink and White. (Pkt. 25c.)

Wedgewood Bright Blue. (Pkt. 25c.)

White Orchid Pure White. (Pkt. 25c.)

Yarrowa Rose Light Wings. (Pkt. 25c.)

Mixture of the above colors. (Pkt. 25c.)

SCABIOSA, OR MOURNING BRIDE.—The tall flowers are especially adapted for cutting and massing in the garden, also good as a background where a color effect is desired. Height 4 feet.

Azure Fairy.—A beautiful shade of light blue. A great favorite. (Pkt. 10c.)

Black Prince.—A very deep purple, almost black. Unique. (Pkt. 10c.)

Crimson.—Very effective. (Pkt. 10c.)

Snowball.—Large head of lovely pure white flowers. (Pkt. 10c.)

Tall Double Mixed.—Immense flowers; very double, contains twelve or more different shades. (Pkt. 10c.)

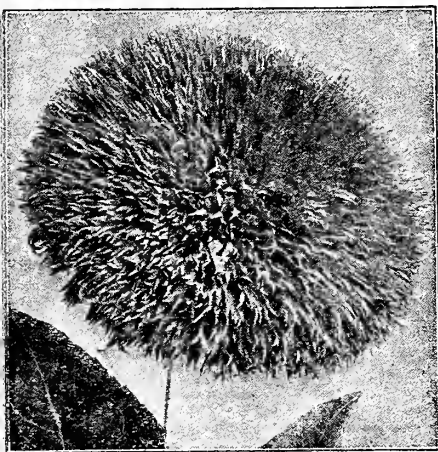
SCHIZANTHUS.—Very beautiful and interesting annuals. This is one of the easiest annuals to raise from seed. Sow in the open where plants are to flower. Exceptionally beautiful when in full bloom and literally covered with small orchid like flowers.

Mixed. (Pkt. 10c.)

Wisetonensis Choice Mixed.—An improved mixture, beautifully spotted. (Pkt. 15c.)

SHASTA DAISY.—See Daisy.

SMILAX.—A perennial vine which thrives best in a shady location. Very useful for decorative purposes. (Pkt. 10c.)



California Double Sunflower

SUNFLOWER (Helianthus).—Stately, hardy annuals of easy culture. Useful for background, or as a fence and often grown for the seed. Height 6 to 8 feet.

California Double.—Large, massive, bright yellow flowers, height 6 feet. (Pkt. 10c.)

New Red Sunflower is a very apt description of this new variety. The plant is of freely-branching habit, with well-shaped dark-centered flowers of bright chestnut red, merging to yellow at the tips of the petals. Height 6 feet. (Pkt. 10c.)

SWEET WILLIAM (Dianthus Barbatus). A hardy perennial blooming the second year from seed. Grows one to two feet high and bears its flowers in clusters, at the end of a stiff stem. The individual flowerets are handsomely colored and marked. It makes a beautiful bedding plant, and is of easy culture.

Single Varieties, Mixed.—Very attractive. (Pkt. 10c.)

Double Varieties, Mixed. (Pkt. 10c.)

SWEET SULTAN.—See Centaurea Imperialis.

Giant Perfection or Dresden.—Of branching habit with long stems which makes this variety very useful as a cut flower. The mixture contains 8 or more different colors. Height 2 ft.

Lavender.

Purple.

Pink.

Mixed.

(Each—Pkt. 10c.)

STOCK, NICE.—An intermediate type, very useful for winter flowering if planted in the fall. Seed sown in February or March continue to bloom well on into the summer. Height 18 inches.

Nice, Giant Almond Blossom.—Quick growth with flowers of a very large size. The color is white shaded carmine. (Pkt. 15c.)

Nice, Giant Crimson King.—Long Spikes, of a rich crimson color. (Pkt. 15c.)

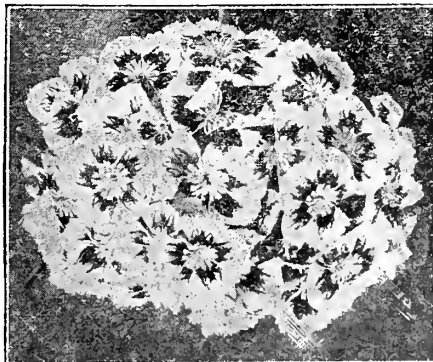
Nice, Giant Empress Elizabeth.—Immense spikes of a rich bright rose. (Pkt. 15c.)

Nice, Giant Cote d'Azur.—Light violet blue, a very desirable shade. (Pkt. 15c.)

Nice, Monte Carlo.—Canary yellow. (Pkt. 15c.)

Nice, Finest Giant Mixed.—All colors. (Pkt. 15c.)

TROPAEOLUM CANARIENSIS.—See Canary Bird Flower.



Sweet William

STOCKS (Ten Weeks' Stocks, or Gilliflowers; Levoye).—The stock is one of the many popular plants used for bedding. For brilliancy and diversity of color, fragrance, profusion and duration of bloom it is unsurpassed. Sow the seed in pans or boxes and transplant when large enough to an open sunny location. Be careful to save the weak and delicate plants, as these usually throw the best doubles. It is also a good idea to plant rather thickly so that the single can be weeded out as they appear. The seed can only be saved from single flowers, but as we purchase from the most reliable growers our stocks produce a large percentage of doubles.

Dwarf Double Ten Week.—This dwarf variety is splendid for edging, carpet bedding, borders, and cut flowers. The different shades make very pleasing color effects. Height 12 inches.

White.

Crimson.

Canary Yellow.

Light Blue.

Dark Blue.

Finest Mixed.

(Each—Pkt. 10c.)

MAKE ATTRACTIVE THE OUT-OF-WAY PLACES

There are many annuals the seed of which may at the approach of the rainy season be scattered broadcast upon any preferred place about the premises. The winter rains will cause them to grow luxuriantly and bloom from early spring till far into the summer, with no more care than to pull up the weeds that appear at the beginning.

Here is a list of flowers that will bloom under such conditions: (All of these will reseed themselves.)

A. & M. Collection of Annuals, 10 pkts. 50c

African Daisy	Collection of ten packets, 50c	Shirley Poppy
Sand Verbena		Gaillardia
Sweet Alyssum		Marigold
Calliopsis		Gypsophila
California Poppy		Portulaca

These will furnish cut flowers for your home nearly all the year.

VERBENA.—A half hardy trailing perennial of easy culture. It is well known as a bedding or border plant, and the improved large flowered and fragrant strains make it a handsome cut flower for low vases.

Mammoth Flowered, Mixed. (Pkt. 10c.)

Mammoth Rose Queen (new).—Large brilliant rose. A splendid bedding plant. (Pkt. 20c.)

Pink Shades.—Mammoth strains of rose and pink shades. (Pkt. 10c.)

Pure White.—Mammoth strain. (Pkt. 10c.)

Purple and Blue Shades.—Mammoth strain. (Pkt. 10c.)

Scarlet Defiance.—Brilliant scarlet. (Pkt. 10c.)

VIOLET.—Hardy perennials, blooming freely throughout the summer and autumn. Of easy culture.

Admiration.—Dark blue. (Pkt. 10c.)

Cornuta Purple.—Fine, rich, purple. (Pkt. 10c.)

Cornuta White.—Pure white flowers, freely produced. (Pkt. 10c.)



Verbena Rose Queen

WALL FLOWER.—These delightfully fragrant flowers are indispensable for every garden. Height, 18 inches.

Annual Mixed. (Pkt. 10c.)

Giant Zinnia

ZINNIA.—**Giant Double.** Facts about this wonderful Annual. The large blooms often measure 5 inches across. Blooms continuously from April to October. Individual blooms last 6 weeks on the plant without fading. One of the easiest Annuals to raise from seed.

Giant Double White. (Pkt. 15c.)

Giant Double Pink. (Pkt. 15c.)

Giant Double Yellow. (Pkt. 15c.)

Giant Double Scarlet. (Pkt. 15c.)

Giant Double Purple. (Pkt. 15c.)

Giant Double Mixed. (Pkt. 10c.)

Dwarf Double Mixed.—A valuable class only about fifteen inches high, very free blooming; flowers as large as the ordinary double Zinnia. (Pkt. 10c.)

NEW ZINNIAS

New Dahlia Flowered.—The plants of this new race are very sturdy and produce many flowers with stout stems. The broad petals are closely imbricated, seeming almost to be piled one upon the other. The flowers in full bloom often measure four inches in depth and six to eight inches in diameter. There is a decidedly wide range of colors from the Golden Yellows, Old Rose, many shades of pink and bicolors. (Pkt. 25c.)

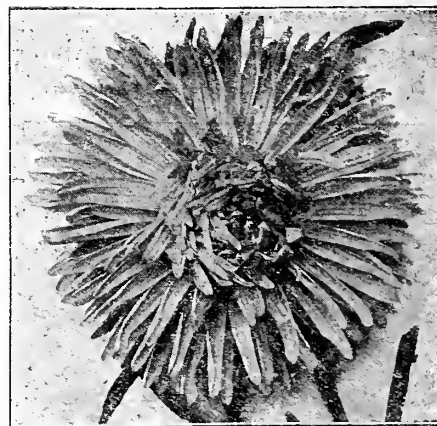
Buttercup.—The new and pleasing color is a valuable addition to the collection of Giants. It is identical with the other Giant Zinnias having a pleasing deep primrose color which holds its color in bright sunshine. (Pkt. 25c.)

Giant Picotee Type.—Like the Picotee Sweet Peas, this very attractive novelty has taken well among the flower

fanciers and we are pleased to advise the Picotee markings are more pronounced this season with a larger range of colors, including many shades of Crimson, Scarlet, Pink and White with well defined Gold Picotee markings on slightly fringed petals. (Pkt. 25c.)

Stellata or Star Zinnia (Z. Mexicana Hybrids).—A beautiful low-growing border plant with star-like flowers ranging in color from deep crimson to white, including the yellow and orange shades. (Pkt. 10c.)

Victory-Quilled.—The petals of this type are peculiarly quilled and twisted with a pin wheel effect in the center. The outsides of the petals of a coppery golden color and on the underside, various shades of Rose and Lilac, which when the petals twist, reflect pleasing Autumn colors. (Pkt. 25c.)



Victory Quilled Zinnia

TREE AND SHRUB SEEDS

CYPRESS

Macrocarpa (Monterey Cypress). (Pkt. 10c) (oz. 20c).
Pinus Canariensis (Canary Island Pine). (Pkt. 10c) (oz. 35c).
Insignis (Monterey Pine). (Pkt. 10c) (oz. 35c).
Lambertiana (Sugar Pine). (Pkt. 10c) (oz. 35c).
Sequoia Gigantea (California Big Tree). (Pkt. 15c) (oz. 75c).
Sempervirens (California Redwood). (Pkt. 10c) (oz. 50c).

ACACIA

Acacia Baileyana.—(Pkt. 10c) (oz. 50c).
Cultriformis (Knife Leaved Acacia).—(Pkt. 10c) (oz. 35c).
Dealbata (Silver Wattle).—(Pkt. 10c) (oz. 35c).
Floribunda.—(Pkt. 10c) (oz. 40c).
Lophantha (Crested Wattle).—(Pkt. 5c) (oz. 15c).
Melanoxlyn (Blackwood).—(Pkt. 10c) (oz. 35c).

CONIFER—CEDAR

Cryptomeria Elegans.—(Pkt. 10c) (oz. 50c).
Juniperus Virginiana (Red Cedar).—(Pkt. 10c) (oz. 25c).

PALMS

Chamaerops Exeelsa (Windmill Palms).—(Pkt. 5c) (oz. 10c) (lb. \$1.00).
Corypha Australis (Australia).—(10 seeds 10c) (100 seeds 75c).
Phoenix Canariensis (Canary Island Palms).—(10 seeds 10c) (100 seeds 75c).
Washingtonia Filifera.—(Pkt. 5c) (oz. 10c) (lb. \$1.00).
Washingtonia Robusta.—(Pkt. 5c) (oz. 25c) (lb. \$2.00).

EUCALYPTUS

Globulus (Tasmanian Blue Gum).—(Pkt. 45c) (oz. \$1.00).
Corynocalyx (Sugar Gum).—(Pkt. 15c) (oz. \$1.00).
Robusta (Swamp Mahogany).—(Pkt. 15c) (oz. 50c).
Rostrata (Red Gum).—(Pkt. 10c) (oz. 50c).
Rudis (Desert Gum).—(Pkt. 10c) (oz. 60c).
Tereticornis (Gray Gum).—(Pkt. 15c) (oz. 75c).

MISCELLANEOUS

Camphor officinalis (Cucumber Tree).—(Pkt. 10c) (oz. 35c).
Grevillea Robusta (Silk Oak of Australia).—(Pkt. 10c) (oz. 40c).
Jacaranda Mimosaeifolia (Brazilian Jacaranda).—(5c each) (Per dozen 40c).
Schinus Mollis (Mexican Pepper Tree).—(Pkt. 5c) (oz. 10c).
Melia Umbrauliformis (Texas Umbrella Tree).—(Pkt. 5c) (oz. 10c).
Robinia Pseudacacia (Black Locust).—(Pkt. 5c) (oz. 10c).
Wild Sour Orange.—Write for Price.
Sweet Orange Seed.—Write for Price.
Blitter Almond.—(Per lb. 30c postpaid) (10 lbs. or more 25c per lb. f. o. b. here).
Myrobalan Plum.—(Per lb. \$1.00).
Californica Wild Walnut.—(Per lb. 25c prepaid).
Apricot.—(Per lb. 20c postpaid) (10 lbs. 75c f. o. b. here).
Peach.—(Per lb. 15c postpaid) (10 lbs. 50c f. o. b. here).

SMALL TREES IN FLATS

Eucalyptus—Tereticornis, Rostrata, Globulus and Corynocalyx. Price—\$3.00 per flat of 100 trees, \$25.00 per 1000 trees, f. o. b. here.

Monterey Cypress, same price as Eucalyptus.



ADD CHEER TO THE HOME WITH A CANARY

Under the management of Mrs. Lila Bailey, a lifelong lover of birds, who has thorough knowledge of the business and can advise intelligently.

We offer your choice of canaries at the following prices:

	Males	Females
Rollers	\$15.00—\$40.00	\$5.00—\$10.00
Warblers	5.00—15.00	1.00—3.00
Norwich	15.00—40.00	5.00—10.00

Cages

We have an assortment of cages to suit every fancy.

Food Remedies

We carry a full line of bird remedies and food.

Mixed bird seed with cuttle bone and package of sand (lb. 25c) (10 lbs. \$1.60) prepaid.

Canary	(lb. 25c)	(10 lbs. \$1.60)	prepaid
Hemp	(lb. 25c)	(10 lbs. \$1.60)	prepaid
Rape	(lb. 20c)	(10 lbs. \$1.00)	prepaid
Millet	(lb. 20c)	(10 lbs. \$1.00)	prepaid

FLOWERING BULBS

No creation of the beautiful so appeals to the lover of flowers as the fragrant bloom of the Hyacinth; the profuse coloring of the Tulip, the Crocus, Amaryllis, Gladiolus, and Dahlia; the distinct shades that give variety to the Iris, and Narcissus, or the delicate whiteness of the Tuberose, and the most loved of all the Lily of the Valley.

Bulbs of every color to suit every fancy.

Bulbs for the window or for outside bedding.

Bulbs to plant every season of the year.

WRITE FOR OUR CATALOG OF BULBS

We cannot give space in this catalog to describe the many varieties of more than twenty-five species of bulbs, but we do give ample description in our Bulb Catalog. Write for it at once.

Holland Bulbs arrive October 1st and should be planted before January 1st. Write at once for our Bulb Catalog.

LITERATURE FOR POULTRYMEN

	Price	Pstpd.
American Bird Fancier, The.....	\$.50	\$.60
American Standard of Perfection.....	2.50	2.70
Artificial Incubation and Brooding.....	1.00	1.15
Barred, White, Buff, Plymouth Rocks.....	1.00	1.15
Bantam Fowl .....	.50	.60
Broilers and Squabs.....	.60	.70
California Poultry Practice, by Mrs. Susan Swaysgood	1.00	1.20
Call of the Hen, by Walter Hogan.....	2.00	2.25
Canary Breeding & Training.....	.35	.45
Chick Book .....	.50	.60
Diseases of Poultry.....	.60	.70
Duck Culture, by James Rankin.....	.75	.85
Ducks and Geese.....	.75	.85
Eggs and Egg Farm, by Stoddard.....	.50	.60
Fanciers Hand Book, Practical Book of Cage Birds .....	.25	.30
Hog Book, by W. S. Guilford.....	2.00	2.25
Hutch Record Cards, per dozen.....	.15	.25
Leghorns, Brown, White and Buff.....	1.00	1.15
Milk Goat Dairy by G. H. Wickersham.....	.50	.60
National Standard Squab Book.....	1.00	1.15
Pigeon, The, 9th edition by Meersch.....	.25	.35
Profitable Culling and Selective Flock Breeding, compiled by Jackson & Curtis.....	1.50	1.70

Poultry Houses and Fixtures.....	1.00	1.15
Poultry Architect by Fiske.....	.75	.85
Poultry Account Book.....	.40	.50
Poultry Culture	1.50	1.70
Practical Poultry Keeping, by Wright.....	2.00	2.20
500 Questions and Answers, by J. W. Darrow..	.25	.30
Rabbits, Fur Bearing, by Ritchey.....	.50	.60
Rabbit Pedigree Blanks, per dozen.....	.25	.35
Rabbit, The Western Book, by Ritchey.....	.60	.70
Rabbit, 9th edition.....	.25	.35
Rabbit Culture and Standard, by Deardoff....	.60	.70
Reliable Poultry Remedies.....	.25	.35
Rhode Island Reds.....	.75	.85
The New Egg Farm, by H. H. Stoddard.....	1.50	1.70
Turkeys, All Varieties.....	.75	.85
Turkeys, How to Grow Them, by Herbert Myrick	1.00	1.15
Two Hundred Eggs a Year Per Hen.....	.50	.60
Use of Artificial Light to Increase Winter Egg Production	1.50	1.70
Valuable Points on the Breeding of Pheasants, by Fred J. Sudow.....	1.00	1.15
Western Poultry Book.....	1.00	1.10
Wyandottes, The	1.00	1.10
The New Egg Farm by H. H. Stoddard.....	1.50	1.70

PLANT DEPARTMENT (See Page 8)



THE CAROLINA

This picture taken October 1st shows a field of Carolinas set out March 10th. Though less than seven months old has borne a full crop of berries. Notice enormous growth of runners

THE CAROLINA STRAWBERRY

This variety is superior to all other varieties. It is earlier, bearing a full crop eight to twelve weeks after transplanting, and sends out more runners and sets more good strong plants quicker than any other variety.

It bears berries continuously all summer; the stems are strong, supporting the fruit well above the ground; the foliage is profuse, shading the berries from the sun and protecting the roots from frost.

"Two hundred plants set out in March yielded a full crop of berries in May and June, and before the following March fourteen thousand plants were sold and more than two thousand plants remained in the row. The second year this row matured berries two weeks earlier than any other variety and bore good large berries all summer."

Mr. Baldwin set out 7000 Carolina Berry Plants during March, 1919, and about the same number each of Brandywine, Klondike and Lady Corneille. The Carolina matured berries the latter part of May and bore profusely throughout the months of June and July, when the other varieties only began to bear, and none compared by half with the Carolina. By August the field of Carolinas was covered with runners while the other varieties began to grow. Mr. Baldwin says they are the only variety that pays for itself within three months after planting.

The berry is larger than the Klondike, red through and through, of delicious flavor, is solid and a good shipper.

Mrs. Jackson set out one dozen plants and reports that the Carolina is far ahead of any strawberry she ever grew. This variety is sure to become a big money maker.

We have only a limited supply of plants, which we offer in lots of 1000 as low as other popular varieties which are not worth half so much. (25 plants, \$1.00 (100, \$3.00) (1000, \$20.00).

GROW MORE BERRIES

No other line of gardening promises greater returns than berries. When berries brought the grower 3c and 5c a box it was profitable, but at the price of 10c and 15c to the grower, which prevailed throughout last season, it would warrant some competition with more acreage.

First consider what help you can count upon for picking, then apportion your acreage accordingly.

The present method of setting plants a few inches apart on little narrow ridges too close to permit of irrigating without uncovering the roots is not conducive to best results.

Set the plants in December, January or February, 18 inches apart in rows two feet apart. This will require 15,000 plants per acre. Keep the soil in perfect condition to permit the runners to root freely, but train them to grow along the row. Then do not disturb them except to cultivate and weed. By January or February of the following year you will have a field like shown in the above picture in full bearing, and the vines will continue bearing until late in the season. Continue the cultivation, allowing the runners to set as before. The profit in earliness and productiveness the second season is conclusive that this method is better than is now generally pursued.

Ettersburg No. 80 Is a large solid berry. It is very productive of fine red berries that are of large size and have a large, clean-cut green calyx or hull. The blossoms are very large and the runners very strong. The plant is extra vigorous and deep rooting and the foliage leathery. In the fall of the year the young foliage is of a bluish cast. The fresh fruit is of fine dessert quality, and for flavor as a canned berry it is the very best, and has a deliciousness found in no other variety. It is red, and red to the center. It is a great canning sort. No. 80 is about the best of all hybrid strawberries for semi-arid sections fifty miles or farther from the coast. Also on clay soil and in high altitude.

Price—(Per 25, \$1.00) (100, \$3.00) postpaid; (1000 \$20.00) f. o. b. here.

The Banner Strawberry is claimed to be the best of all the local varieties because of its uniformly large size, red, glossy appearance, good keeper, non-acid flavor, and always showy, on which account the dealer prefers it.

Price—(Per 25, \$1.00) (100 \$3.00) postpaid; (1000 \$20.00) f. o. b. here.

Klondike For many years the Klondike has been the favorite with large growers. It is excellent for shipping.

Price—(Per 25, 50c) (100 \$1.50) postpaid; (1000 \$11.00) f. o. b. here.

Brandywine This is a standard variety and has been planted extensively by larger growers in this section for more than twenty years. It is a good shipping variety. Price—(Per 25, 50c) (100, \$1.50) postpaid; (1000, \$11.00) f. o. b. here.

Marshall (Per 25, 75c) (100, \$2.00) postpaid; (1000, \$15.00) f. o. b. here.

Haviland (Per 25, 75c) (100, \$2.00) postpaid; (1000, \$15.00) f. o. b. here.

If you have any Budding, Grafting, Pruning or Spraying to do, phone South 2641-M or write C. W. Manning, 332 West 41st place.

MAKE YOUR HOME

BEAUTIFUL PLEASANT PROFITABLE

In this favorable climate there is little excuse for unhappiness if each one would direct a little energy toward making the home grounds more beautiful, more pleasant, and more profitable.

Fruit trees and berry plants will add to the beauty of your backyard. A proper selection will give you delicious breakfast fruit every morning the whole year round.

A little effort intelligently applied will make your home a place of Beauty, Pleasure and Profit.

The backyards should be utilized for fruit trees, berry vines, vegetables and other plants of economic value. Avocados and some others are handsome enough for front or side yards. The Fuerte, Sharpless and Spinks will give you some fruit every day in the year.

Fruit Trees Sold at the Counter Only

We suggest that you buy your trees from your nearest nurseryman.

We aim to have, in season, from day to day, a supply of the popular varieties of fruit trees.

Should you wish an assortment, place your order several days in advance of your calling for them, they will then be ready.

Berry plants and grape vines are ready for delivery January 1st until end of planting season.

Berry Plants — Price Prepaid

	per 10	per 100	per 1000
Loganberry	\$2.00	\$15.00	\$100.00
Blackberry-Corey Thornless ..	3.00	20.00	150.00
" Macatawa	1.50	7.50	60.00
" Himalaya	1.50	7.50	60.00
" Mammoth	2.00	10.00	75.00
Dewberry Gardena	1.50	6.00	50.00
" Lucrertia	1.50	7.50	60.00
Raspberry St. Regis	1.50	8.00	70.00
" King of Cliff	1.50	7.50	60.00
" Cuthbert	1.50	6.00	50.00
" New Red	1.50	8.00	70.00

GRAPES

We aim to have on hand during the season the following varieties of one-year-old rooted grape cuttings:

One year old rooted cuttings, Muscat, Red Emperor, Black Morocco, Rose of Peru, Black Hamburg, Cornichon, Thompson Seedless, Tokay, Eastern Concord.—(Each 25c) (dozen \$2.00 postpaid). Write for quantity price.

PERSIAN GRAPES

We again have a limited supply of the Persian Varieties which we offer at following prices:

Price—Prepaid

Karum—Oblong, white grape (each 60c) (10 \$5.00)
 Black Damson—Round, black grape (each 60c) (10 \$4.00)
 Hamadan—Olive-shaped white grape (each 60c) (10 \$4.50)
 One of each variety.....\$1.50, postpaid

Lawn and Garden Requisites

On this page we can only hiat at some of the lines we carry, trusting you will, if interested, write and inquire for more information. We carry a full line of Lawn Mowers, Garden Hoes, Pruning Knives, etc.

GARDEN TOOLS

- No. 1—Pruning Saw, folding handle, \$1.75.
 No. 2—Grass Hooks, 75c and \$1.00.
 No. 3—Hedge Shears, \$2.50 to \$3.00.
 No. 4—Tree Pruner, \$2.75.
 No. 5—Garden Trowel, 25c to \$1.00.
 No. 6—Excelsior Weeder, 25c.
 No. 7—Pruning Shears, \$1.75 to \$3.75.
 No. 8—Grass Shears, 75c and \$1.00.
 No. 9—Water's Tree Pruners, 4 to 10 ft. \$2.00 to \$2.50.
 No. 10—Warren Hoe, \$1.50.
 No. 11—Dibble, 75c.
 No. 12—Lawn Rakes—wire, \$1.75.
 No. 13—Pruning Saw, \$3.50.
 No. 14—Garden Rake, curved teeth, \$1.60.
 No. 15—Pruning Saw, \$2.50.
 No. 16—Perfect Clinching Hose Couplings, 45c Pair.
 No. 17—Asparagus Knife, \$1.00.
 No. 18—Turf Edger, \$1.50.
 No. 19—Boston Nozzle, 85c.
 No. 20—Secure Hose Washers, 20c doz.
 No. 21—Garden Hoe, 7-in., \$1.35.
 No. 22—Crescent Fountain Sprinkler, \$1.25.
 No. 23—Twin Sprinkler, 35c.
 No. 24—Spading Fork, Long \$1.75, D-Handle \$1.00.
 No. 25—Square Fountain Sprinkler, \$1.00.
 No. 26—Wilgus Sprayer No. 2, 50c.
 No. 27—Shovel—D-Handle, Long Handle, \$2.35.
 No. 28—Rose Nozzle, 75c.
 No. 29—Perfect Clinching Hose Menders, 20c each.
 No. 30—Handy Sprinkler, 50c.
 No. 31—Spade—D-Handle, Long Handle, \$2.35.
 No. 32—Potato Hooks, \$1.50 and \$2.00.
 No. 33—Lawn Mower, Lassen, 8-in. Wheel.

Lawn Mowers

- Lassen, ball bearing, 8-in. wheel
 14 inch\$13.00
 16 inch\$14.00
 Lennox, ball-bearing, 9-in. wheel
 14 inch\$15.00
 16 inch 16.00
 Capitol Lawn Edgers.....\$12.00
 Grass Catchers 1.75

Garden Hose

We have but one grade of Hose to offer and that is the best we can purchase. Priced as follows:

- A & M Special.....½ inch.....22c per ft.
 " " "¾ inch.....23c per ft.
 " " "1 inch.....24c per ft.

Couplings, 25c extra per pair

Spray Hose

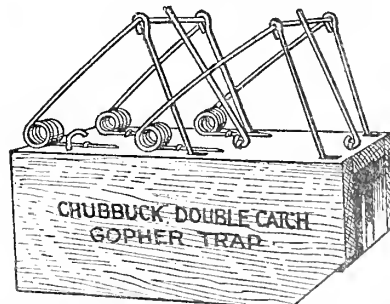
This is adapted for spraying of all kinds where a heavy pressure is required, and the hose is chemically treated to prevent any acid from injuring it.

Priced as follows:

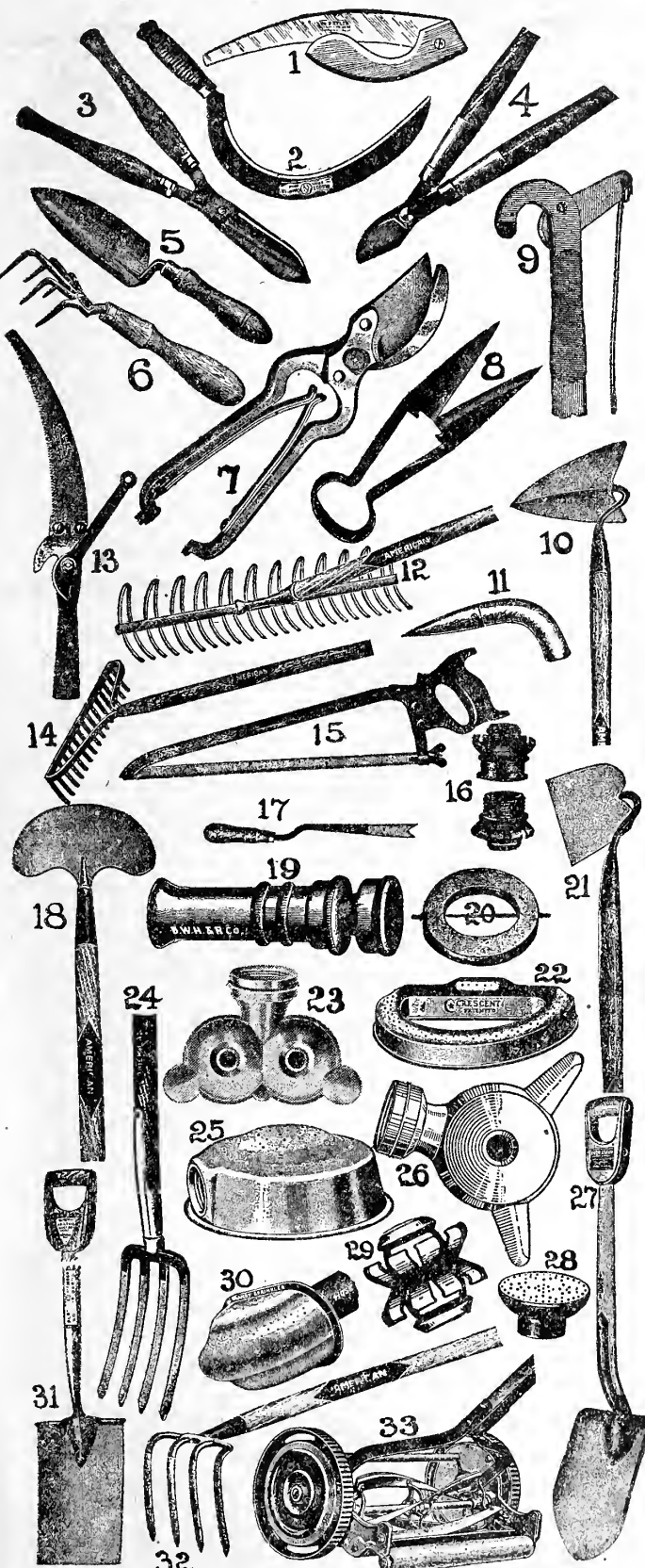
- ¾ inch30c per ft.
 ½ inch35c per ft.
 ¼ inch45c per ft.

Couplings extra

CHUBBUCK DOUBLE CATCH GOPHER TRAP



This is the latest and surest Gopher Trap on the market. Catches either large or small gophers. And very often when the gopher is working the dirt ahead of him the trap is sprung, catching him by the outer spring. Price 75c.



NURSERY AND FARM REQUISITES

Pennsylvania Fruit Picker



Pennsylvania Fruit Picker

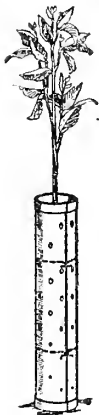
No ranch is completely equipped without this valuable tool. It is always the choicest fruit that cannot be reached from the ladder, you do not wish to knock it down with a club, as the fall would bruise it. Use the Fruit Picker and the fruit is caught in the pocket prepared for it. Every ranch that has half a dozen or more fruit or walnut trees should have one or more Pennsylvania Fruit Pickers. Price 75c. By mail 85c.



Masters Fruit Picker. \$2.00 postpaid.

Yucca Tree Protectors

The Yucca Tree Protector is made from the soft spongy Desert Palm, and will last years exposed to the weather. Wires go entirely around the protector, thus holding it in place, even should it crack a little while in use. Protect your trees against the hot rays of the sun, rabbits, gophers, and be sure to use this protector if bothered with Tree Borer.



Paraffine



Yucca

Paraffine Paper Tree Protectors

These Protectors are perforated, giving a free circulation of air around the tree trunk. The Paraffine preserves the paper, making the Protector very durable. Will not split or tear.

Size	Lbs.	Per 1000 Price	Per 100 Price
14 in.	90	\$12.50	\$1.75
18 in.	125	15.00	2.00
24 in.	150	18.50	2.25
30 in.	200	22.00	2.50
36 in.	250	28.50	3.50

All prices f. o. b. Los Angeles

Grafting Wax—(¼ lb. 25c) (½ lb. 40c) (lb. 75c) postpaid.

Balling Twine—(5-lb. ball \$1.75) f. o. b. here.

Budding Twine—(Per ball 50c) (Postpaid 60c).

Budding Cloth—(Per square yard 70c) prepaid.

POT LABELS		Painted	
Plain	100	1000	1000
4.....	25c	\$2.50	4.....30c
5.....	30c	\$3.10	5.....35c
6.....	35c	\$3.60	6.....40c

TREE LABELS—Copper wired and painted:

3½ inch\$0.35 per 100 \$3.60 per 1000

HANGING BASKETS—Earthenware:

7 inch\$.35 10 inch\$.75

3 inch\$.50 14 inch\$ 1.50

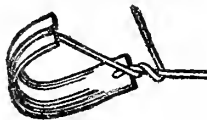
HANGING BASKETS—Wire:

10 inch75c 12 inch\$1.00

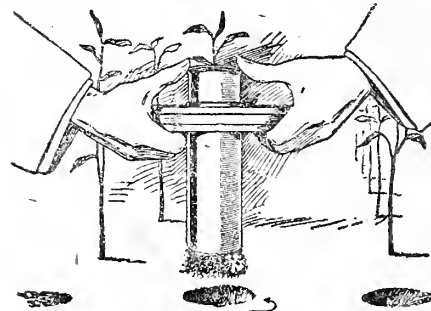
WALL POCKETS—Wire:

10 inch85c 12 inch\$1.25

Thompson's Tree Support



Place the supports above projecting branches on the limb to secure them against slipping down. These supports are out of the way of everything. They are perpetual. There is no



Taken out of here - to be set in here

TRANSPANTER

then picks up the plant root and all, without disturbing it, and sets the plant into its new location without checking its growth. A child can operate it. Just the thing for Eucalyptus growers and nurserymen. (50c) (by mail 60c).

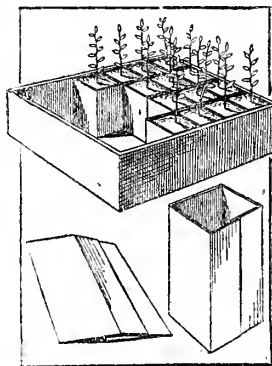
further expense after putting on. The proposition is simply to make opposite limbs support each other, or the center limbs to support the outer limbs, thus doing away entirely with the ordinary wooden prop. (Per 100, \$3) (1000 \$26.00) Weight: 10 to a lb.

TRANSPANTER

A Transplanter that does the work without disturbing the roots. It first makes the hole where you wish the plant,

The Expan Planting Pot

Made of heavy tar paper. Open top and bottom. For propagating plants, trees and shrubs—no waste space—no breakage. For the nurseryman, florist and market gardener. You can grow melons, squash, cantaloupes, cucumbers, etc., three weeks earlier in these pots than out in the open. When setting the plants in the field plant the pot and all, leaving about one inch above the top of the soil; this



protects the tender plant from cut worms, wire worms, moles and field mice.

THE EXPAN PLANTING POT

Size	Price per 1000	Price per 100	Wt. per 1000
3x8	\$11.00	\$1.75	85 lbs.
3x6	8.90	1.55	66 lbs.
3x5	7.25	1.45	55 lbs.
3x4	6.25	1.35	44 lbs.
3x3	4.75	1.25	38 lbs.
2x8	8.00	1.45	58 lbs.
2x6	6.25	1.35	44 lbs.
2x5	5.25	1.25	37 lbs.
2x4	4.60	1.00	29 lbs.
2x3	3.75	.75	22 lbs.
1½x5	4.60	1.00	28 lbs.
1½x4	3.75	.75	22 lbs.
1½x3	2.95	.50	17 lbs.

All prices f. o. b. Los Angeles

RAFFIA.—No. 1 quality. Price per lb. 25c.

GREEN MOSS.—Per lb. 20c, bales \$9.00 f. o. b. Los Angeles.

SPAGNUM MOSS.—For packing plants, trees, asparagus, etc. Per bale \$3.50.

CLAY FLOWER POTS

Price on application.

SEWING TWINE

No. 1.—Per lb. \$1.25; Bbl. 12 Bbls., \$14.40.

THE FEENY DUST GUN



Is a mechanically perfect apparatus which emits powder in clouds of right consistency from any position and in any direction, downward, upward or horizontal.

Feeny Dust Gun, \$2.50. Ask for circular.

NURSERY AND FARM REQUISITES—(Continued)

LOWELL'S POWDER SPRAYER

A successful hand sprayer for sulphur and all powder disinfectants. Capacity one quart. The cheapest and best small powder sprayer on the market. Just right for home gardens. Price \$1.00. Wt. 3 lbs.



Eureka Squirrel Exterminator

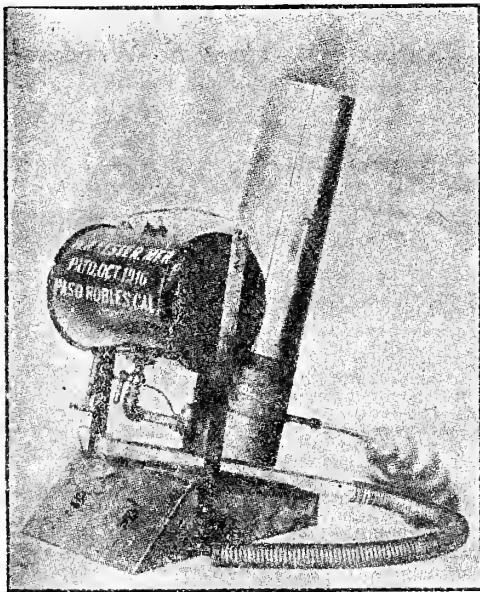
With the use of carbon bi-sulphide, this is the best and cheapest implement with which to eradicate the squirrel pests on your land. We can confidently recommend the use of this machine in vineyards, orchards, grain fields, pasture lands, etc. It is of simple construction, best galvanized sheet steel with bellows attached. The working of the bellows causes the carbon bi-sulphide in the machine to generate a gas, which is forced into the burrows of the squirrels, thus killing them instantly. The exterminator forces no liquid into the runs, only the gas, thereby saving 75% of the carbon bi-sulphide, over the old way of saturating balls of cloth or cotton. A colony of squirrels can soon destroy \$50.00 worth of vegetation. Price \$15.00. Weight, crated, 12 lbs.



Eureka Squirrel Exterminator

Kester Automatic Vaporizer

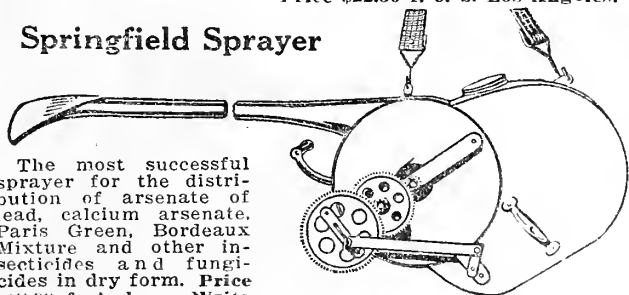
For killing squirrels, gophers, etc. Safer and more efficient than poison, traps, and all other methods combined. It works automatically, forcing distillate vapor, which is heavier than air, to the bottom of the burrows, the vapor is inhaled by the rodents and the young and old die in a few minutes. This machine has been tested and proven to be the most efficient and cheapest method of exterminating ground rodents by the U. S. Health Service, San Francisco, Cal.; Los Angeles County Horticultural Commission; L. R. Alderman, Pasadena, Cal., professional pest destroyer, used six machines on 750 acres. These machines are guaranteed to do the work when the directions are carefully followed. Price \$22.50 f. o. b. Los Angeles.



Alderman, Pasadena, Cal., professional pest destroyer, used six machines on 750 acres. These machines are guaranteed to do the work when the directions are carefully followed. Price \$22.50 f. o. b. Los Angeles.

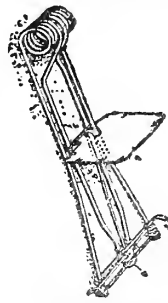
Springfield Sprayer

The most successful sprayer for the distribution of arsenate of lead, calcium arsenate, Paris Green, Bordeaux Mixture and other insecticides and fungicides in dry form. Price \$18.00 f.o.b. here. Write for circular.



Macabee Gopher Trap

This is the most convenient gopher trap yet manufactured. It is easy to set, small and can be extended far down into the hole. Price, postpaid, 35c.



Macabee Gopher Trap

Box Gopher Trap. This trap is used extensively by gardeners. Is easy to set and sure. Price, by mail, 40c.

EASY SET MOLE TRAP catches them going and coming. A child can set it with perfect safety. Price, \$1.25, f. o. b. here.



Sulphur Duster
½ gal. 60c; by
mail 70c



Easy-Set
Mole Trap



Jumbo Powder Blower

To eradicate fleas, bedbugs, etc., use this blower. Also excellent for dusting house plants. By mail 60c.

AMERICAN BEAUTY DUSTER

The best dry powder duster on the market. For Orchard, Vineyard, Garden and Field. If interested write for circular.

Because of its bellows capacity, it can be used where no other knapsack sprayer could possibly reach.

Its spiral agitator and fine screens cause it to deliver a finer dust than any other machine, hence it is more thorough and economical.

It is built on correct principles and has been used under the most severe conditions, with remarkable success.

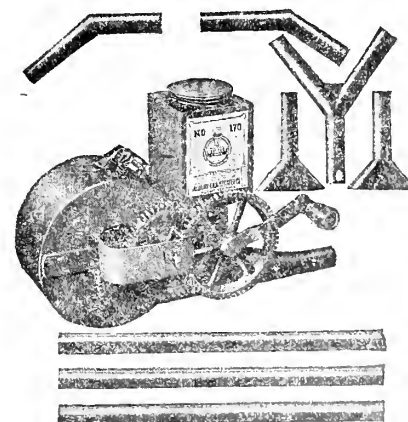
Our hundreds of satisfied customers are our best advertisement.

Standard size. wt. 14 lbs., \$20.00.

American Beauty Duster

Utility Duster No. 170

Used for the application, in dry form, of spray chemicals, as Arsenate of Lead, Paris Green, etc. Made of heavy tin enameled red; iron and brass machine cut gears used throughout, and so arranged as to give a steady and uniform delivery. Fan is 3½ by 6½ inches, larger than on other dusters of similar construction. The hopper holds more than a quart. The position of feed valve in bottom of supply hopper is shown by indicator on fan box.



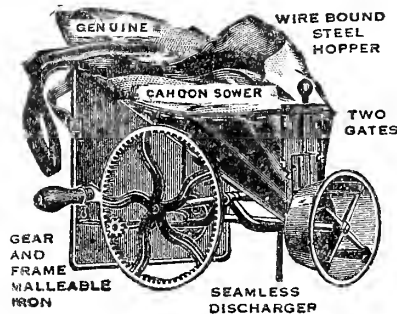
The duster exclusive of the tubes is 14 inches long, 6 inches wide, and 9½ inches high; it weighs with complete equipment about 6 pounds. It is provided with three 1-inch by 14-inch tubes, two 45-degree and one Y, or two-way, connection and two large nozzles with wide spread, and an adjustable carrying strap. All points in the pipe line lock securely, no loose joints as on other makes of dusters.

Shipping weight, 8 pounds. Price \$14.50.

NURSERY AND FARM REQUISITES—(Continued)

When wanted by Mail, add postage. See inside front cover page.

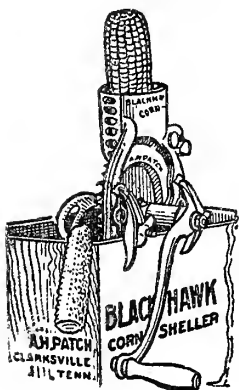
We have enumerated only a few of the specialties we carry. We have always on hand a full line of garden tools of every description, and for every conceivable purpose. Ask for anything you may want in this line. We have it.



Cahoon Sower
Weight crated, 8 lbs.

The Standard Sower, acknowledged to be superior to all other hand sowers. Gives perfect satisfaction and can be used for sowing alfalfa and grains broadcast. Sows from four to eight acres per hour at a common walking gait. A saving of four-fifths of the labor and one-third of the seed by its use. A person entirely unaccustomed to sowing by hand can use this machine with perfect success. **Price \$6.00. f. o. b. here.** Weight crated, 8 lbs. Can be sent by mail.

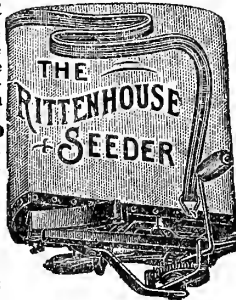
Black Hawk Corn Sheller



Corn Sheller

of grass seeds, grains and fertilizers. Clover is thrown a width of 18 ft.; timothy, 15 ft.; alfalfa, 20 ft.; wheat, 25 ft.; oats, 18 ft.; millet, 18 ft. An operator can sow from 40 to 50 acres per day. **Price—\$2.50 f. o. b. here.** Weight, 9 lbs.

Shells easily, and rapidly separates the cob from the corn. We give it special recommendation to poultry men. **Price—\$4.50 f. o. b. here.** Weight, 20 lbs. packed.



Rittenhouse Seeder

It has its right side concave in shape and rests nicely against the body just above the hip. The crank shaft being above the distributing wheel brings both hands to nearly a level and gives the operator the easiest position possible. It sows evenly all kinds



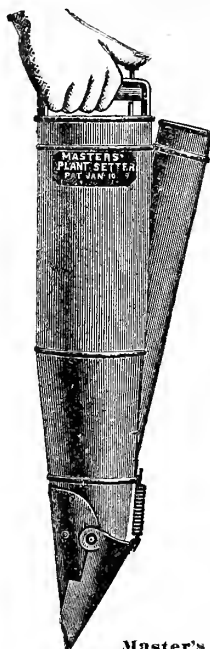
Cyclone Seed Sower

Planted seed bought of you on March 19, '20, and have a beautiful garden. This A. M. I dug one hill of potatoes (Early White Rose) and got six well formed and large size tubers which weighed about 3½ lbs. or a little more, so you see with that for an example I would certainly come back to you for more seed. No more eastern seed for me. I had used that seed for two years; tried your seed this time and will buy nothing else. I will plant some fall potatoes and will get the seed from you. Wishing you continue success and always boosting Aggeler & Musser Reliable Seeds, I am,

(Signed) H. J. MERRILL, Edison Sub-Station,
Orange County, Calif."

Cyclone Seed Sower

This Seeder is equipped with the following important features: Sloping feed board, automatic feed adjustment, distributing wheel, triple gears. Weight, 5 lbs. **Price, \$3.75.**



Master's Plant Setter

Segment Corn Planter
The lightest, most accurate, strongest, cheapest and most up-to-date Planter on the market. Never cracks a kernel nor skips a hill. It is always in position, never makes a wrong move. Many gardeners are using this for their replanting, and melon growers are using it to plant watermelons and cantaloupes. (See picture). **Price—\$2.00 f. o. b. here.** Weight, 5 lbs.

Ask for anything you may want pertaining to garden tools; we probably have it, although not listed.

Master Plant Setter

The only hand mechanical plant setter on the market. No stooping when using it, therefore no lame backs. All kinds of plants—Cabbage, Tobacco,

Tomatoes, Cauliflower, Strawberries, Sweet Potatoes, etc., are set in water and covered at one operation. Weight, 10 lbs.

Price—Each \$6.75 f. o. b. here. Ask for circular.

"Norcross" Cultivators—Hoes & Weeders

The Modern Tools—for Garden and Flowers



Like the Human Hand, these tools cultivate closer to plants without injuring them, than any other implement known; leaving the soil level, loose and untrampled.

Cost but a trifle more than the common Hoe—accomplish much more and better work with decidedly less labor. The sharp tapering shovels enter the soil freely, literally tearing up every inch of it, from 1 to 6 inches deep, as required.

Detachable Steel Prongs—Malleable Head—Extra High Grade Handles and beautifully finished throughout. Three sizes, suited to both men and women.

PRICES EACH—5-prong (wt. 3 lbs.), \$1.90; 3-prong (wt. 2 lbs.), \$1.35; Midget (wt. 12 oz.), 90c. Postage extra. See postal rates on inside front cover page.

Black Hawk Feed Mill

The grist mill without a fault. Light running, well built. It will last a lifetime. Grinds all kinds of grain fine or coarse. **Price, \$5.00 f. o. b. here.**

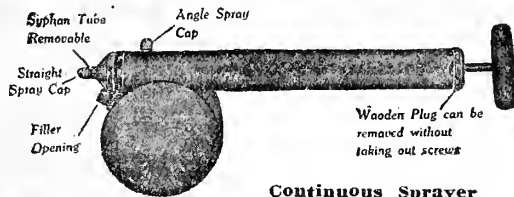


Black Hawk Feed Mill

INFORMATION

Our Information Department is Free to You
Our Information Department is like a Correspondence School, except that it is all free to you and you are welcome. Read pages 1 to 10. Notice the Call Counter, and make use of it. The information you want is in this catalog. Read, you will find it.

SPRAYERS FOR EVERY PURPOSE



Continuous Sprayer

Continuous Sprayer

This atomizer is what the name implies, by means of a small air chamber attached there is sufficient pressure to keep the spray continuous while the operator is making the back stroke of the arm, during which time other atomizers are at rest. **Tin, \$1.00; Galvanized, \$1.50; Brass, \$1.75; Prepaid.**

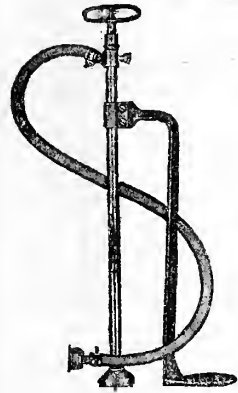
Brown's Auto Spray No. 6

This sprayer can generate a pressure of 200 lbs. with ease. It is double acting, has strainer in intake and discharge, also in nozzle, made of brass, adjustable foot rest. Can be taken apart and put together without tools. Equipped with 3½ ft. hose. Brass fine spray nozzle; brass solid stream nozzle. This is a light and powerful pump. Weight, 6 lbs. **Price, \$6.50 f. o. b. Los Angeles.**

Bucket Pump, No. 95

All working parts of this pump that come in contact with spray solutions are brass. By removing variable disc a straight stream can be had for washing windows, automobiles, etc., in addition to general spray purposes.

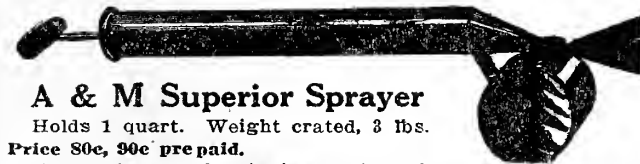
This is a double action pump, the air chamber being provided by the hollow plunger rod of ¾-inch tubing. Body of pump is 1¼ by 19 inches, made of heavy seamless brass tubing. Pump is equipped with 2 feet of ½-inch, 5-ply hose and 12 inches of ¼-inch pipe and our No. 80 angle service nozzle. The brass parts are highly polished and laquered; the handle and foot rest are painted a rich carmine red. **Wt. 6 lbs. Price 6.50.**



Brown's Auto Spray No. 6



Utility No. 95



A & M Superior Sprayer

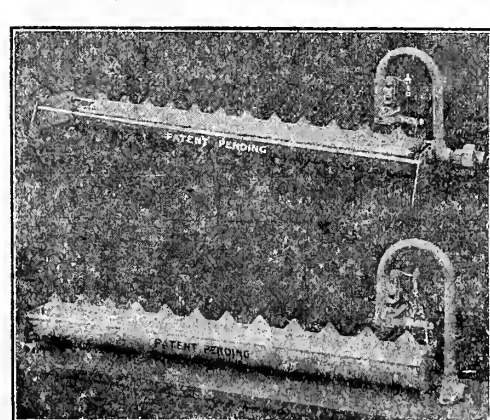
Holds 1 quart. Weight crated, 3 lbs.

Price 80c, 90c prepaid.

Little Midget holds 1 pint; is just the sprayer for home use. **Price 60c prepaid.**

PERFECTION

If ordering by Mail or Express add 25c to order for Packing



Automatic Baby Chick Fountain
Capacity: 500s, 750 and 1,000

This Fountain is automatic in arrangement, and can be adjusted at will for any water pressure. It is the most modern and complete Fountain ever offered to the poultry people, and is the result of several years' experimenting.

The Perfection is made in three sizes
24-in. \$2.00
30-in. \$2.25
36-in. \$2.75
f. o. b. here.

A & M Superior Utility Sprayer

This sprayer is made of heavy galvanized iron or brass, all seams sweated and riveted, tested at 95 lbs.; tank equipped with standard hose connections, capacity 3½ gallons. The pump cylinder is made of heavy brass tubing, with bronze ball check valve contained within a thin brass cage, which does not deteriorate like rubber. The nozzle is made of brass and can be adjusted to be operated at any desired distance by three-eighths inch connecting rod. This sprayer is especially adapted for spraying trees, poultry houses, out-buildings, barns, and vegetables of all kinds. By reason of the ball bearing check valve, any insecticide or acid may be used safely in this pump without danger to the valve. This pump is the dairy men's friend. Packed one in a box, shipping weight, 10 lbs. **Price: galvanized, \$8.50; brass, \$11.50, f. o. b. Los Angeles.**



Utility Sprayer

Lowell Compressed Air Sprayer



Lowell Compressed Air Sprayer

Has stood the test fifteen years. The tank is made of heavy steel or brass, holding three gallons. The discharge pipe extends down through the tank to the bottom of the solution. The pump is located on the outside of the tank and the valve does not come in contact with the insecticides or acid used in spraying. This is the all-purpose sprayer. **Price, galvanized \$8.50, brass \$10.50, f. o. b. Los Angeles. Weight, 20 lbs.**

Perfection Compressed Air Pump

The tanks are made of heavier metal than has ever been used in sprayers of this kind, making the tank practically unbreakable. The pump is 1¼-inch seamless brass tubing with a brass valve, and is sealed into the top of the tank with heavy threads following the construction used in the best makes of fire extinguishers.

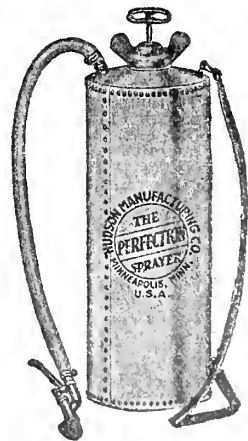
This Sprayer will handle Whitewash, Water Paints, Bordeaux Mixtures, etc., perfectly.

For whitewash and all heavy mixtures it is necessary to use a "W. W." Cap in nozzle, which is furnished with sprayers. These sprayers are made in galvanized steel or brass as ordered. Weight 9 pounds empty. All sprayers tested to 60 lbs. before leaving factory. Weight, packed, 14 lbs.

Galvanized Steel.....\$8.75
All Brass.....\$12.50

f. o. b. Los Angeles.

We keep on hand all minor parts. Perfection Nozzle, \$2.00; Disks, 10c; Disk Valve, 25c; Ball, 25c; Top Gasket, 40c; Mict. Disk in Pump, 5c.



Perfection Sprayer

Utility No. 40 Portable Outfit

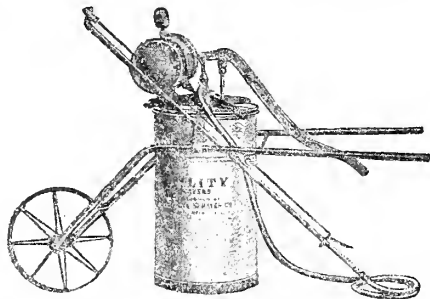
Very useful for painting, whitewashing, and disinfecting warehouses, factories, barns, trees and greenhouses.

TANK larger than most similar outfits, made of heavy galvanized iron, reinforced at top and bottom with heavy band iron rings. Constructed the same as our No. 50 Barrel pump as shown on this page. Mechanical agitator keeps liquids thoroughly mixed. Outfit equipped with out patented Utility Angle Nozzle, which controls spray at discharge end regardless of what length pole is used. A fine strainer at suction end prevents sediment getting into working parts of pump.

FRAME substantially built of steel, well braced and balanced.

Equipment:—Capacity, 13 gallons; 10 feet $\frac{1}{2}$ inch 5-ply spray hose, 4-foot spray rod; 1 patented Utility Angle Nozzle No. 65. Shipping weight complete, crated 85 pounds.

No. 40—Portable Outfit. Price, each \$39.00 f. o. b. Los Angeles.



UTILITY NO. 40A PORTABLE OUTFIT

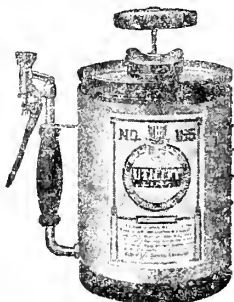
Same in construction as our No. 40, but equipped with an air pressure tank mounted on pump casting. This makes a one-man outfit. By obtaining 250 pounds pressure considerable spraying can be done without pumping.

Equipment same as with No. 40.

Shipping weight, complete, crated, 100 pounds.

No. 40A—Portable Outfit. Price, each \$49.00 f. o. b. Los Angeles.

Utility One Gallon Sprayer



No. 190
Brass
Tank
\$7.00

No. 185
Galv.
Tank
\$5.25

Most convenient size compressed air type sprayer ever put on the market. Especially adapted for sanitary work, disinfecting, small gardens. Tank, $6\frac{1}{4}$ inches in diameter by $8\frac{1}{2}$ inches high. Same in design as the No. 10 tank. The pump cylinder is of heavy brass tubing, $1\frac{1}{4}$ inches in diameter, has a brass ball check valve enclosed in a brass cage. Pump plunger made of No. 1 leather; filling cap of ample size provided, eliminating use of funnel in filling. Cap easily removed without the use of wrench. The discharge is through a $\frac{1}{8}$ -inch galvanized iron pipe from center of tank when in horizontal position. The nozzle is the self-closing type made of brass, provided with strainer, and is not affected by chemicals.

Price, No. 185 Galvanized \$5.25, No. 190 Brass, \$7.00, f. o. b. Los Angeles. Shipping weight, 5 lbs.

PERFECTION AUTOMATIC FOUNTAIN

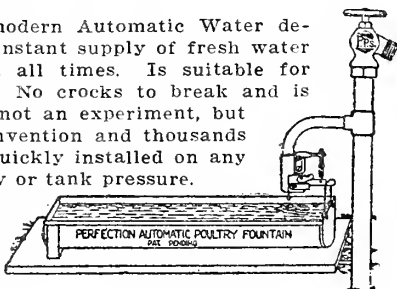
This is the most modern Automatic Water device which keeps a constant supply of fresh water before your fowls at all times. Is suitable for hens or baby chicks. No corks to break and is easily cleaned. It is not an experiment, but a highly successful invention and thousands are in use. Can be quickly installed on any pipe and works on city or tank pressure.

24-inch \$2.00

30-inch 2.25

36-inch 2.75

F. O. B. Los Angeles



THE WENATCHEE Fruit and Vegetable Gathering Bag Used Everywhere



REASON IT IS SO
POPULAR

It is durable and practical.

Saves in labor a dollar a day over cost by any other method. The load is carried from the shoulders by heavy halter web that will not curl, and in this position gives ease and comfort to the picker. A strap around the waist keeps it in position. The mouth of the bag is always open, being constructed with a novel shaped metal frame so that the hands of the picker can go with the fruit to the bottom of the bag. Bottom of the bag is opened instantly by the snap, and fruit is emptied out without bruise or injury.

When snapped at top loop the bag will hold one-half bushel; when snapped at bottom loop as shown in cut the bag will hold about a bushel.

Body of bag is made of 10 ounce canvas double stitched with waxed harness thread and reinforced with leather riveted at wearing parts.

Will last for years. Can't be beat for planting and gathering potatoes. Shipping weight, 2 lbs. Price, \$3.00 postpaid.

Utility Barrel Pumps

Cylinder is made of heavy brass $2\frac{1}{2}$ inches in diameter. Brass plunger can be adjusted without removing, having special treated cotton wick packing to prevent corrosion by chemicals. All working parts that come in contact with liquids are brass. Bronze ball valves easily removed. Pressure of 150 to 200 pounds can be maintained.

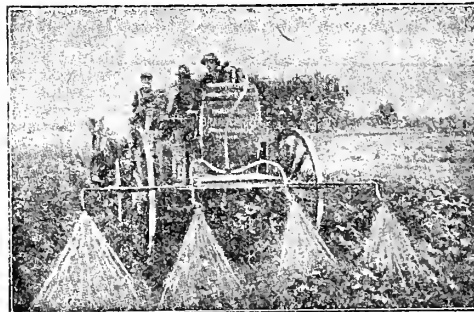
In complete outfits we furnish our patented Utility adjustable nozzle which always gives control of spray at nozzle end. A fine strainer avoids sediments getting into working parts.

Utility No. 50A— $2\frac{1}{4}$ in. cylinder complete as shown in cut. Without Barrel—Price \$25.00, f. o. b. here. Weight crated 50 lbs.

Utility No. 90A— $1\frac{1}{2}$ in. Cylinder—\$17.00.

Utility No. 50A

Wagon Spray Boom



This boom can be used with any good barrel pump, but gives the best satisfaction in connection with our No. 25 or No. 40. It is light, strong and adjustable to every position. Will throw spray at any angle and can be folded so that you can drive through narrow gates and can be set to spray between rows of grape vines, etc., two nozzles spraying to the right and two to the left. One barrel of liquid will cover three acres. A ten year old boy can operate it. The cheapest and best method of spraying a field of potatoes, celery, etc. Price, \$11.00 f. o. b. here.

INSECTICIDES, See Page 57 and 58.

The ever increasing inroads of insects and disease has rendered it necessary to get adequate sprayers to meet this necessity. Call and see our assortment; it is complete.

Planet Jr. Garden Tools

There has never been such urgent need for Farm and Garden Implements throughout the world as now. The Planet Jr. tools have stood the test for over forty years and today are the most complete and satisfactory tools on the market. Write for Planet Jr. catalog. We handle the full line.

No. 4, Planet Jr. Combined Hill and Drill Seeder, Wheel Hoe, Cultivator and Plow

Price complete, \$25.50, f. o. b. here. Weight 50 lbs. As a Seeder only, \$20.50, f. o. b. here. Holds $2\frac{1}{2}$ qts. of Seed. weight, 40 lbs.

No. 4



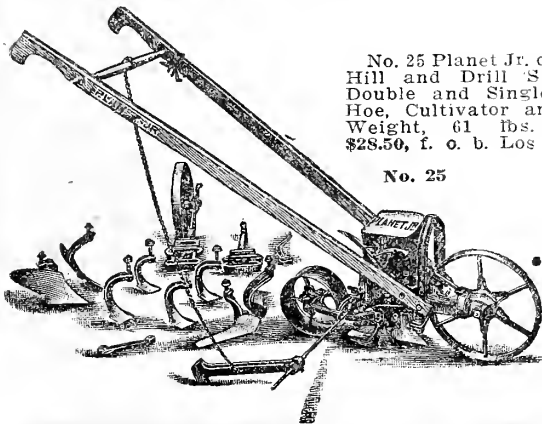
As a Seeder.—It sows all garden seed in continuous rows with uniformity, or in hills, 4, 6, 8, 12 or 24 inches apart. It is accurate, simple and durable. No. 4-D, \$20.50 f. o. b. here.

As a Wheel Hoe.—The seeding parts are removed and wheel hoe tool frame substituted by changing a single bolt. Equipped with all tools. Not sold as a Wheel Hoe only.

No. 4 complete, \$25.50, f. o. b. Los Angeles.

No. 25 Planet Jr. combined Hill and Drill Seeder, Double and Single Wheel Hoe, Cultivator and Plow. Weight, 61 lbs. Price, \$28.50, f. o. b. Los Angeles.

No. 25

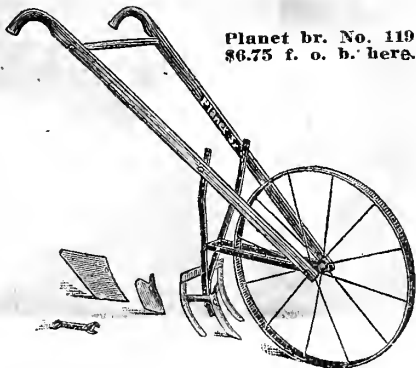


Planet Jr. No. 119

To meet the demand for a high wheel hand cultivator we offer the Planet Jr. fully equipped as shown in the picture.

Weight packed, 20 lbs.

Price, \$6.75 f. o. b. here.



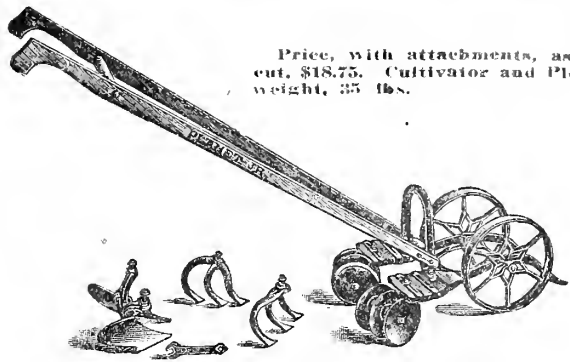
Planet Jr. No. 119 \$6.75 f. o. b. here.

Planet Jr. Price List

All quotations F. O. B. Los Angeles. We have a full line of repairs for Planet Jr. Give number of parts when ordering.

Planet Jr.

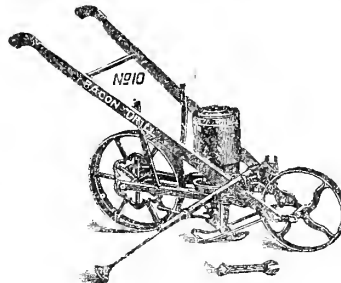
No. 1 Seeder.....	\$21.00	No. 11-D Wheel Hoe.....	\$20.75
No. 2 ".....	17.50	No. 12-D ".....	17.25
No. 3 ".....	23.75	No. 16-S ".....	14.25
No. 20 ".....	42.50	No. 17-S ".....	12.25
No. 31 ".....	17.00	No. 19-S ".....	8.75
		Fire Fly Plow.....	6.25



No. 14 Planet Jr. Double Wheel Disc Hoe

Price, with attachments, as in cut, \$18.75. Cultivator and Plow, weight, 35 lbs.

The Bacon Hand Drill



Bacon Hand Drill

We have been handling lutely reliable to sow evenly from one end of the row to the other. Has angle steel frame with Hill Dropper, Agitator and Front Wheel Extensions of Malleable Iron, giving strength with lightness.

The Hill Dropper will deposit seeds in hills, 9, 12, 18 or 36 inches apart. The Bacon Drills since 1899, and the many customers who are using them are unanimous in praise of their durability and accuracy. All who have used this drill claim it is the most durable of all, abso-

The feed, while simple, handles a very large variety of seed, getting an even distribution that is unequalled, and very noticeable in sowing Salsify, Parsnip, Prickly Spinach, Peas, Beet, etc., getting an even row with light seeding.

The feed will also handle Phosphates, which can be sown before or after seeding.

The Drills have a Shoe Opener, which deposits seed in a narrow line, allowing close cultivation, saving hand labor.

No. 10—Hill and Drill Seeder \$20.00, f. o. b. here.

THE COLUMBIA MACHINES

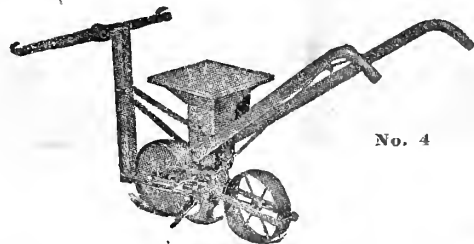
Write for Circular

The Greatest Seeding Machines in the World

The Columbia Hand Planter No. 10

You can plant from one inch apart to ninety-six inches apart by the simple manipulation of the disk wheel and the cylinders. With this drill you can sow any seed in any quantity any distance apart up to eight feet. It will sow your pepper, tomato, and any other crops in the field that now must be done by transplanting. It is a universal planter because there is nothing in the seed line from the size of lima beans to turnip seed that it will not plant. With special apparatus it will plant shelled peanuts without crushing the seed. For hand planter, Price \$22.00. Weight, 85 pounds.

Columbia Hand Planter No. 11.—Same as No. 10 with the addition of the Fertilizer Attachment. Price \$27.00, f. o. b. here.



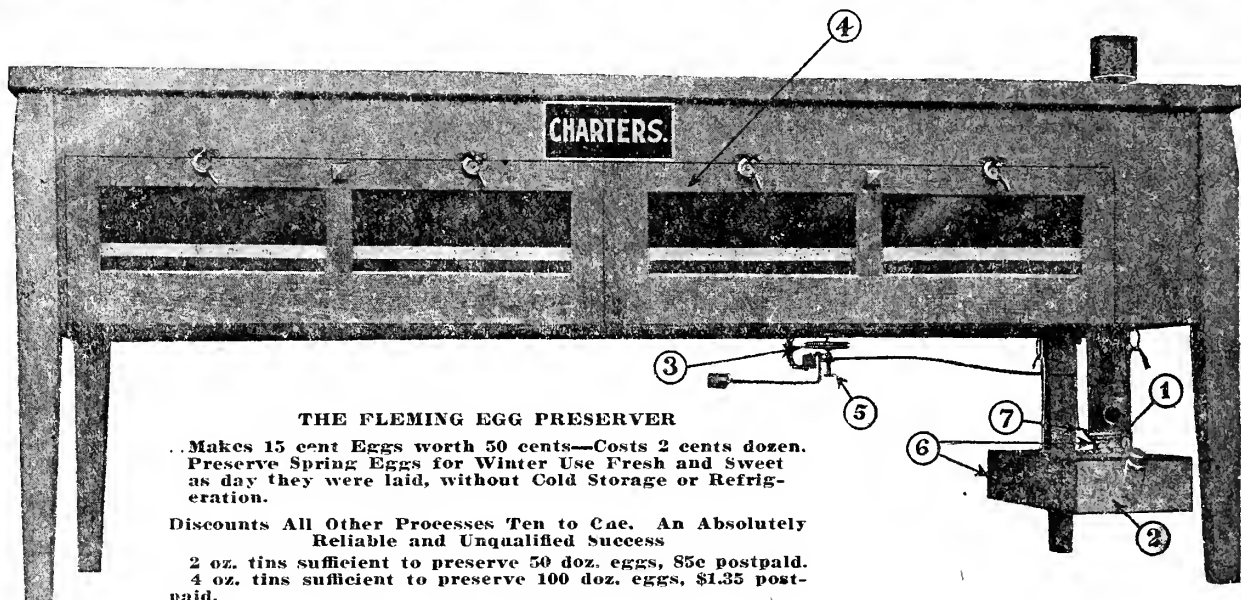
No. 4

COLUMBIA PLANTER WITH HORSE ATTACHMENT

Just the seeder for large gardeners. It does the work as perfectly and as economically as the hand planter. It is heavier than the hand planter, and fitted with a single-tree attachment and extra large adjustable hopper. Weight, packed for shipment, 100 pounds. Price complete, \$35.00, f. o. b. here.

We aim to have on hand cylinders for every kind of seed. When ordering special cylinders, consult your circular, that you may get the one you need.

POULTRY SUPPLY DEPARTMENT



THE FLEMING EGG PRESERVER

Makes 15 cent Eggs worth 50 cents—Costs 2 cents dozen.
Preserve Spring Eggs for Winter Use Fresh and Sweet
as day they were laid, without Cold Storage or Refrigeration.

Discounts All Other Processes Ten to Cae. An Absolutely
Reliable and Unqualified Success

2 oz. tins sufficient to preserve 50 doz. eggs, 85c postpaid.

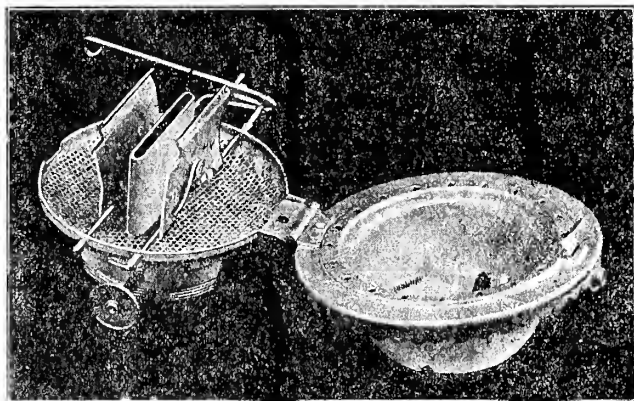
4 oz. tins sufficient to preserve 100 doz. eggs, \$1.35 postpaid.

CHARTERS' INCUBATOR AND REGULATOR

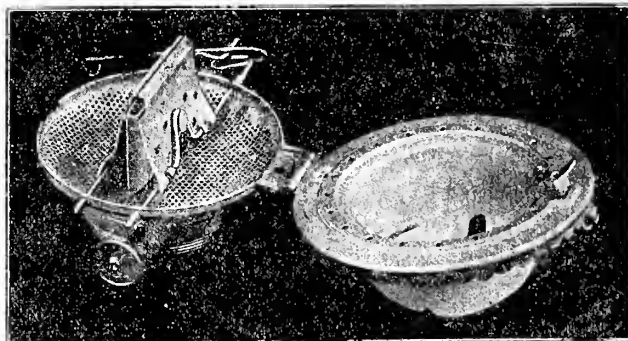
Capacity	Dimensions	Weight	Price f. o. b. here
340-egg Charters	36" x 84"	360 lbs.	\$85.90
270-egg Charters	36" x 45"	230 lbs.	57.00

Charters' Incubator is a hot water machine. Equipped with Charters' Regulator built in at the factory. The only machine that cuts out the work of filling the lamp and trimming the wick daily; the only machine with an outside thermostat and Charters' shutter burner; an incubator that conserves the moisture better than other makes of machines; an incubator that excels in the retention of heat; an incubator that is almost human in its automatic regulation of the inside temperature and which gets back to temperature quicker and with less consumption of fuel than any other known make of hatching machine; and finally the only incubator that the hatcher can leave at any time, even during the last three days of the incubation period, without attention to the heat control device. This in brief describes Charters' Incubator, the most modern hatching machine on the market today.

CHARTERS' REGULATOR



OPEN



SHUT

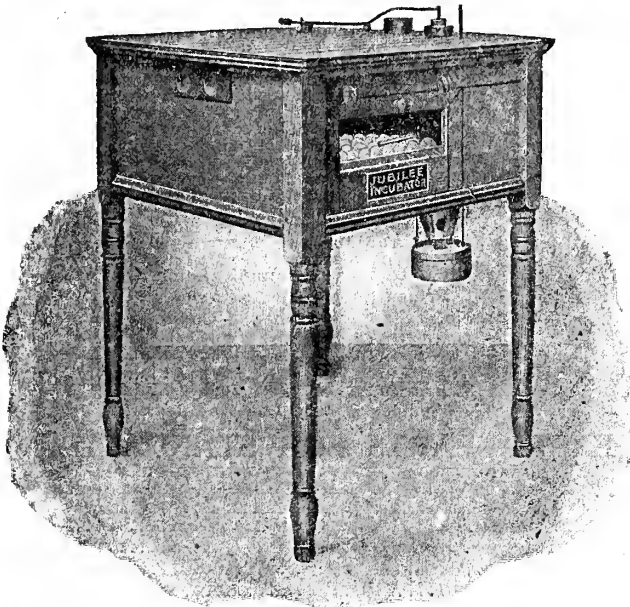
Is a burner with two shutters opening to and from each other on either side of the wick tube, an outside thermostat as well as an inside thermostat, both connected by a lever to these shutters, and a big fuel tank holding a week's supply of coal oil. These in brief are the important parts of Charters' Regulator, a device which requires attention only once a week instead of every day. Understand Charters' patented lamp burner requires trimming only ONCE A WEEK and Charters' Regulator has run for the entire hatch, a total period of 21 days, with only one trimming of the wick and one filling of the lamp.

Charters' Regulator is a device that can be easily attached to other makes of incubators, over one thousand being now in use, the large majority of which have been attached to other makes of machines. The invention marks the first important improvement in the manufacturing of incubators in the last thirty years. It is a regulator which is fast replacing other types because of the great labor saving and absence of worry assured by its use. Send for catalog.

Charters' Regulator, complete: Weight, 15 lbs.; price \$15.00, f. o. b. Los Angeles.

JUBILEE INCUBATORS and BROODERS

THE LOS ANGELES BROODER HEATER



Jubilee Incubator

We wish to call your attention to only a few of the main reasons why the Jubilee Incubator is such a success.

First. The material used is clear dry California Redwood built by efficient workmen.

Second. The egg chamber is lined with heavy wool felt covered with a non-absorbent paper.

Third. The regulator is simple, sensitive and durable.

Fourth. The ventilation is correct in theory, and more important, is correct in practical operations.

Fifth. Moisture with the Jubilee system can be added or decreased without opening the door of the machine.

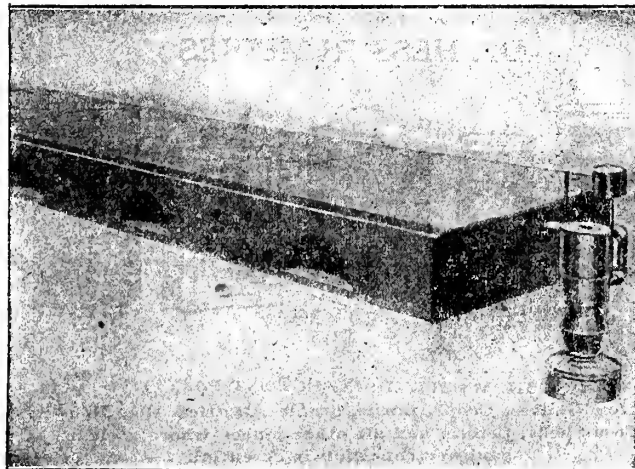
Sixth. The egg trays are framed from angle steel, galvanized, are easily washed and kept sanitary.

For further information ask for Jubilee leaflet. Made in the following sizes:

Capacity	Weight	Dimensions	Price
108-egg	110 lbs.	2 ft. 8 in. x 3 ft.	\$37.00
216-egg	150 lbs.	3 ft. 8 in. x 3 ft. 3 in.	48.00
324-egg	200 lbs.	3 ft. 8 in. x 5 ft. 3 in.	61.00
504-egg	260 lbs.	3 ft. 2 in. x 7 ft. 2 in.	78.00

f. o. b. Los Angeles

JUBILEE INDOOR BROODERS



Capacity	Weight	Dimensions	Price
4-section—200 chicks	170 lbs.	2 ft. 6 in. x 10 ft.	\$32.00
3-section—150 chicks	135 lbs.	2 ft. 6 in. x 7 ft.	27.00
2-section—100 chicks	100 lbs.	2 ft. 6 in. x 5 ft.	21.00

Many manufacturers have attempted to meet the demand for a successful brooder and brooder house heating system. Many of these attempts have been unsuccessful.

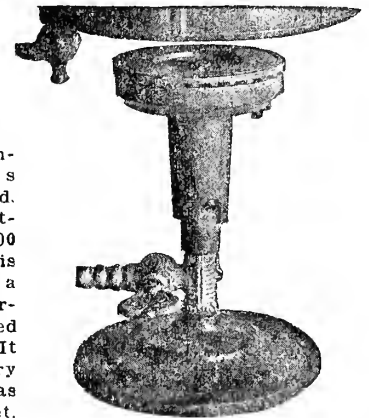
The Heater is made of heavy rolled copper, including 16 half-inch brass tubes, giving very large heating surface, and is almost indestructible under ordinary conditions. The heat comes from a gasoline burner, which checks the flow of gasoline at once in case of fire.

The regular size is.....\$23.00
P. o. b. here.
Oblong Boiler.....29.00

Including Two Burners

The Monitor Gas Burner

This cut shows the new Monitor Gas Burner used to heat our Los Angeles Brooder Heaters where gas can be obtained. This burner has the heating capacity of heating 100 feet of Brooder space. It is economical and safe, and a burner that will not corrode, as it is so constructed to give easy flow of gas. It is said by all large poultry breeders to be the best gas burner on the market. Price \$1.50 f. o. b. here.



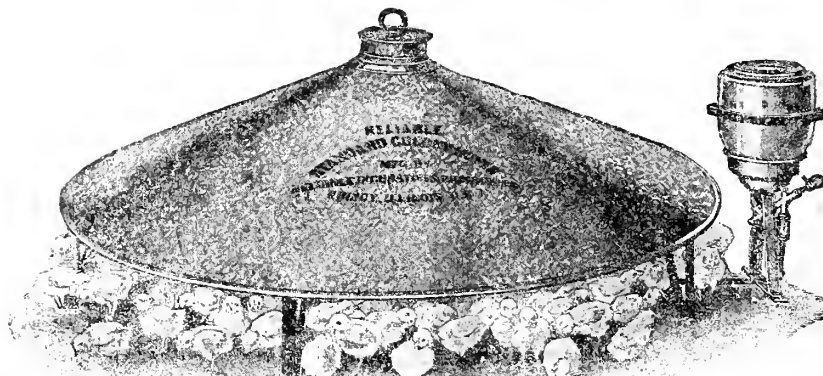
Monitor Gas Burner

INTERNATIONAL SANITARY HOVER

The International Sanitary Hovers have stood every climatic test from Panama to Quebec. Practical poultrymen, state experiment stations, and poultry judges endorse it. You can raise chicks anywhere with International Sanitary Hovers. No specially constructed houses are necessary. There is no better place than in your regular hen houses. Sanitary Hovers are as practical for small backyard poultry raisers as large poultry farms. They are warmest at the curtain—usable anywhere—ready for business wherever placed. No crowding or smothering of chicks; no kneeling in mud to get at the lamp; no cutting of holes or building of platforms. You want the best brooding device—you will get it in the Sanitary Hovers. Weight, packed, 30 lbs. Price \$17.50, f. o. b. here.



THE RELIABLE HOVER



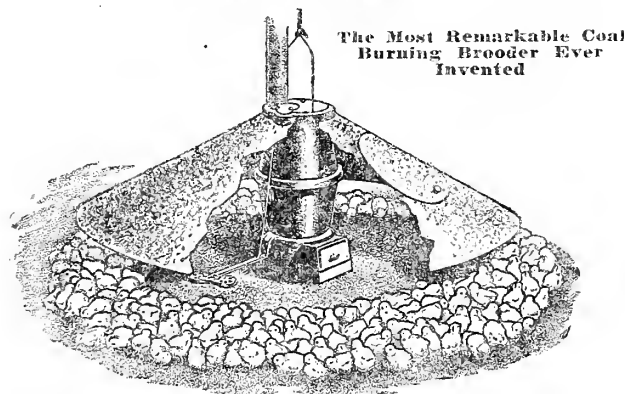
This is a blue flamed, wickless, oil heated colony hover. The most popular, efficient and economical hover we have ever offered. It is made of heavy galvanized steel, cone shaped, with ventilation at the top, and is equipped with a wickless oil burner and a needle valve which regulates the flow of oil. It is made in sizes ranging from 18 inches in diameter to 55 inches. The larger sizes are furnished with a one gallon oil glass container and the smaller size furnished with a one-half gallon galvanized tank. There is nothing to wear out in this hover; no corners; no crowding; it is made in such a shape so as to radiate the heat evenly over the chicks and there is plenty of room for them to move around. Send for catalog.

Prices as per list attached.

No.	Size	Weight	Capacity	Price
00	18-inch	14 lbs.	100 Chicks	\$12.00
0	30-inch	40 lbs.	350 Chicks	21.50
1	42-inch	45 lbs.	500 Chicks	23.50
2	55-inch	55 lbs.	1000 Chicks	27.50

All prices f. o. b. Los Angeles.

THE BUCKEYE STANDARD COLONY BROODER



The Most Remarkable Coal Burning Brooder Ever Invented

Showing a Standard Colony Brooder in Operation With 1,000 Chicks

Since January 1, 1915, 100,000 Standard Buckeye Brooders have been sold. This machine has such a wonderful record among poultry raisers that it is not necessary for us to go into detail describing it. It is a coal burner, burns either soft or hard coal; self-regulating; can be operated in any room in any temperature. It is the simplicity of the Standard and its reasonable price that makes it the most popular brooder on earth. The Standard is made in two sizes:

	Capacity	Weight	Price
			f. o. b. here
No. 18	500 Chicks	74 lbs.	\$27.75
No. 19	1000 Chicks	94 lbs.	34.25

BUCKEYE BLUE FLAME BROODER

This brooder is equipped with a Blue Flame Oil Burner that is smokeless, odorless and noiseless. It embodies the same principles as the Standard. Its simplicity of construction, uniform temperature and low cost of operation makes this a most desirable brooder. It is made in three sizes. If it is a "Buckeye" it must be right. Send for Buckeye catalog.

BUCKEYE BLUE FLAME BROODER

	Capacity	Weight	Price
			f. o. b. here
No. 10	250 Chicks	40 lbs.	\$21.25
No. 11	500 Chicks	50 lbs.	25.75
No. 12	1000 Chicks	60 lbs.	29.75

F. O. B. Los Angeles

JUBILEE INCUBATOR AND BROODER SUPPLY LIST

Incubator or Brooder Lamp, by express, complete with No. 2 Sun-Hinge Burner.....	\$1.85
Incubator or Brooder Lamp, by express, complete with No. 3 Sun-Hinge Burner.....	2.25
Tested Jubilee Thermometer, postpaid.....	1.00
Jubilee Egg Tester, postpaid.....	.35
No. 3 Sun-Hinge Burner, postpaid.....	.85
No. 2 Sun-Hinge Burner, postpaid.....	.75

EXTRA PARTS FOR STANDARD BROODERS

	f. o. b. here
Water Thermostats	3.50
Lower Regulator Arms.....	1.00
Upper Regulator Arms.....	1.50
Half Grate (plain).....	1.50
Shaker Grate.....	1.50
Shaker Handle .....	.50
Grate Lock .....	.50
Stove Lid .....	.75
Check Draft Cover.....	.50
Check Draft Protector.....	.50
Ash Pit Door.....	1.00
Ash Pan .....	.50
Regulator Bolt with Wing Nut.....	.20
Baffle Plate	1.00
Hover Ring	2.00
Hook Rod .....	.25
Gas Burners	5.00
Upper Flue Cylinder	5.00
Fire Bowl	4.50
Ash Pit	3.50
Base	3.50

INCUBATOR AND BROODER SUPPLIES

Lamp Founts for Incubators, No. 1, 85c each f. o. b. here.
 Lamp Founts for Incubators, No. 2, 70c each.
 Lamp Founts for Incubators, No. 3, 55c each.
 Lamp Chimneys for all sizes, 25c each.
 Burners, for Incubators, Sun-hinged, No. 2, 50c each.
 Burners, for Incubators, Sun-hinged, No. 3, 85c each.
 Lamp Wicks, all sizes, 35c per dozen.
 Egg Testers, tin, 35c each.

DR HESS REMEDIES



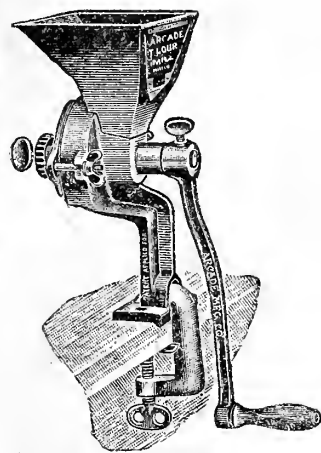
(THE WHITE DISINFECTANT PAINT)

In Hen Houses, Coops, Barns, Stables, Dairies, Hog Houses, Cow Sheds, Cellars and all other places where a clean sanitary condition is essential.

A powerful germicidal agent

Easily Applied—Economical—Sticks to any surface and when dry is snow white.

5-lb. package 85c.	100-lb. box \$13.50.
25-lb. bags \$4.00.	F. o. b. Los Angeles.
50-lb. bags \$7.50.	



Arcade Flour Mill

ENTERPRISE BONE AND GRAIN MILL

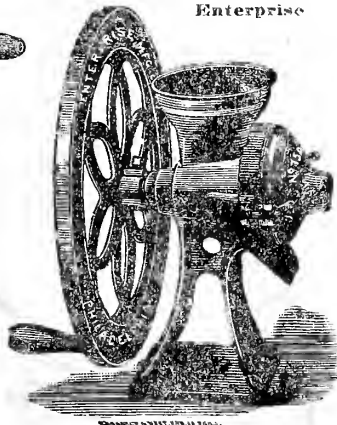
One of the essential tools for poultry men. Can be used for cracking grain, bone, shell or grit.

The Burrs are made from cold chilled steel of the best quality. This mill has for many years been the standard machine of the market, on account of its fine workmanship and durability. If you want a mill that will last and do your work, get the Enterprise. Weight and crate, 75 lbs. Price \$18.00 f. o. b. here.

The Arcade Flour Mill is called the "Home Mill." It is adapted for grinding whole grains into flour. There is not another machine on the market that compares with this mill for the housewife. It is made of best hardened steel, beautiful finish and needs no repairs except the burrs, which may be replaced at a very low price.

Weight of machine, 10 lbs. Price \$4.50 f. o. b. Los Angeles. Set of Burrs 75c.

Enterprise

**MODEL HAND GRINDER**

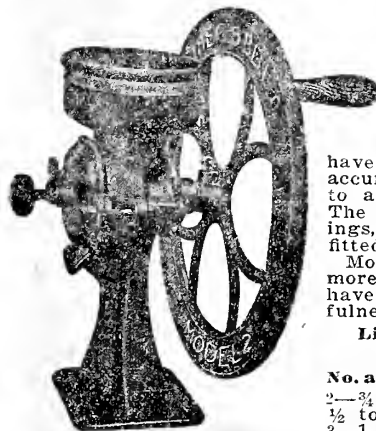
The original family grist mill,—not a cheap imitation. Model Mills have more than one out-th copy but are far superior. Model Mills have harder burrs which run accurately, they are painted to a high finish, not dipped. The parts are smooth castings, carefully ground and fitted.

Model Mills last longer, do more and better grinding and have a broader range of usefulness.

List of Sizes We Carry

f. o. b. here

No. and Capacity	Wt.	Price
2— $\frac{3}{4}$ to 2 $\frac{1}{2}$ bu. per hr.	35	7.00
$\frac{1}{2}$ to 1 bu. per hr.	20	\$4.50
3—1 to 3 bu. per hr.	63	9.00



Model Grinder

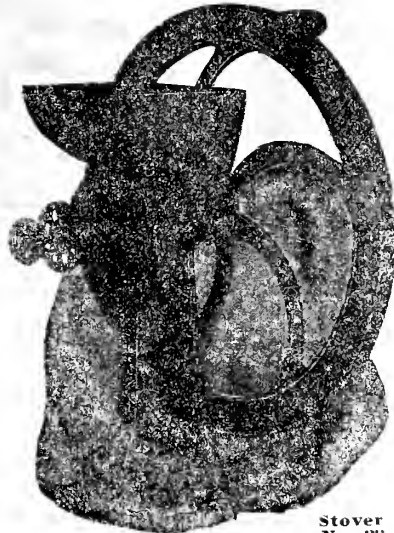
Stover—This machine grinds oats, peas, dry bone, shells, etc., for feeding to poultry.

No. 32—16-inch fly wheel. Capacity 2 bu. per hour. Weight 40 lbs. Price, \$7.50. f. o. b. here.

No. 33—18-inch fly wheel. Weight 45 lbs. Price \$8.00 f. o. b. here.

No. 35A—Equipped with pulley only for operation by $\frac{1}{2}$ to 2 horse power. Weight 50 lbs. Price, \$11.00. f. o. b. here.

No. 35B—Fitted with combination fly wheel and pulley. For hand or power. Weight 60 lbs. Price \$12.00 f. o. b. here.

Stover
No. 22**BONE CUTTERS****MANN'S NO. 7**

The New No. 7 is mounted on a strong iron stand and has patent automatic governing spring feed. Large, opening cylinder, giving instant access to all working parts, has six knives, gear guard, anti-clog device, heavy balance wheel and other improvements. (See cut.)

Price List of Mann's Bone Cutters f. o. b. here.

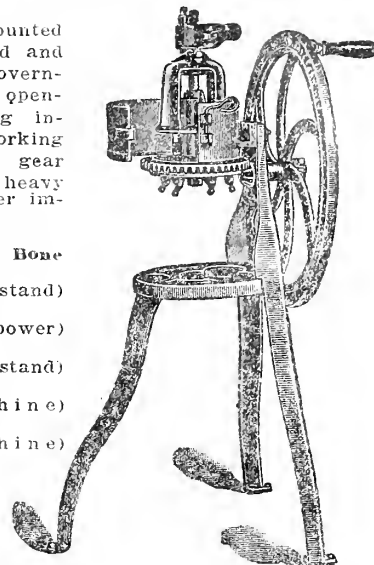
No. 7 (B. W. and iron stand) Price, \$29.50, wt. 107.

No. 7 $\frac{1}{2}$ (hand or power) Price \$36.50, wt. 150.

No. 9 (B. W. and iron stand) Price —, wt. 163.

No. 11 (power machine) Price \$57.00, wt. 215.

No. 12 (power machine) Price \$78.00, wt. 260.



Model No. 7—Price, \$29.50.

CLOVER CUTTERS**MANN'S CLOVER CUTTER**

Made entirely of iron and steel. It cuts any kind of hay or clover, either dry or green. Each revolution of the balance-wheel produces 12 cuts.

With Stand, \$30.00 f. o. b. here.

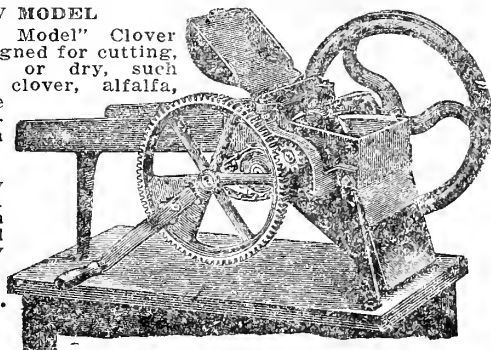
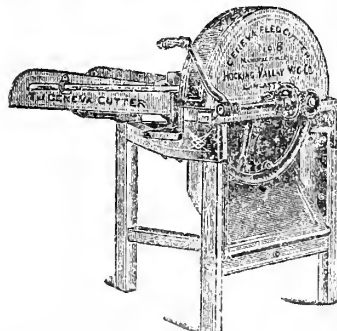
NEW MODEL

The "New Model" Clover Cutter is designed for cutting, either green or dry, such growths as clover, alfalfa, vegetable tops, etc., in-to eighth-inch lengths.

Made only in one size. Knives can be adjusted and easily sharpened.

Price \$25.65.

f. o. b. here.

**GENEVA CLOVER CUTTERS**

This machine is designed for large poultry raisers and is the most satisfactory machine on the market. The knives are fastened to the fly wheel and will cut from $\frac{1}{4}$ to $\frac{1}{2}$ inches. May be used as a hand or power machine. For a power machine remove crank parts and replace with pulley. Light running. Built to last a lifetime. The cutting parts are covered by a hood to protect the operator. Built in three sizes:

No. 6—Wt. 200 lbs. Price, \$60.00.

No. 8—Wt. 240 lbs. Price, \$65.00.

No. 10—Wt. 280 lbs. Price, \$74.00.

No. 10 is equipped with pulley wheel and hand attachment.

Pulley for No. 6 and No. 8, \$3.50.

Knives for No. 6 and No. 8, \$2.00 each.

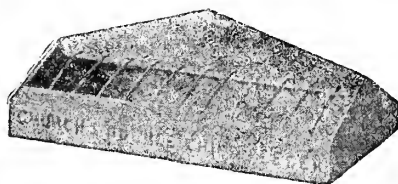
F. o. b. Los Angeles

SINGLE AND DOUBLE CHICK FEEDERS

Any of the following articles ordered by Parcel Post add postage.

DOUBLE FEEDERS

12 in. 50c, wt. 1 lb.
18 in. 70c, wt. 1½ lb.
24 in. 90c, wt. 2 lbs.
30 in. \$1.10, wt. 2½ lbs.



Double Chick Feeder

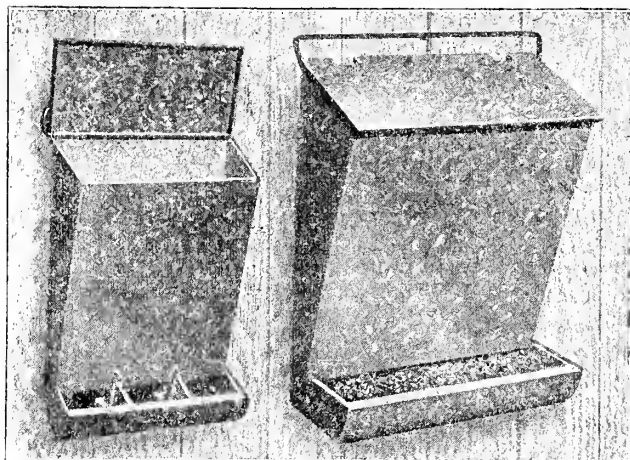
SINGLE FEEDERS

12 in. 35c, wt. 1 lb.
18 in. 45c, wt. 2½ lb.
24 in. 65c, wt. 2 lbs.
30 in. 90c, wt. 2½ lb.
F.O.B. Los Angeles



Single Chick Feeder

FEED HOPPERS



Round Bottom Dry Mash Hopper

Heavy galvanized steel 12 inches wide. Just the feeder for small flocks. Wt. 4 lbs. Price, \$1.25 f. o. b. here.

Combination Feeder

Two compartments for grit and mash. Width, 8 inches. Weight 3½ lbs. Price, \$1.00.

ROUND BOTTOM DRY MASH HOPPER

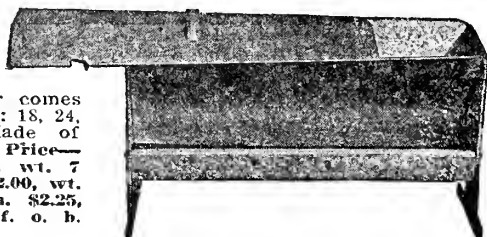


Round Bottom Hopper

Is made of heavy galvanized iron 24 inches long and 30 inches high. Has a screen front so the chicks can get the dry mash and not waste. It is the best dry mash feeder on the market. Can be hung on the fence or shed free from dirt and with the covers rain can not get into the feed.

Price, 18-inch, \$2.25, wt. 8 lbs.
24-inch, \$3.00, wt. 10 lbs., f. o. b. Los Angeles.

GREAT WESTERN DRY MASH FEEDER



This feeder comes in three sizes: 18, 24, and 30. Made of heavy iron. Price—18 in., \$1.75, wt. 7 lbs.; 24 in. \$2.00, wt. 9 lbs.; 30 in. \$2.25, wt. 10 lbs., f. o. b. Los Angeles.

Great Western Dry Mash Feeder

PETTEY'S POULTRY PUNCH

One of the most convenient punches made. It is small and easy to operate, cutting a clean hole every time. Price, 25c; postpaid 30c.



EASY POULTRY PUNCH

Made of brass, so simple in construction any one can use this punch with ease. Price 50c, postpaid.



Easy Poultry Punch

INCUBATOR AND BROODER THERMOMETERS



No. 2—90c



No. 3—\$1.00

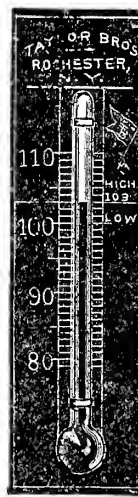


No. 4—90c

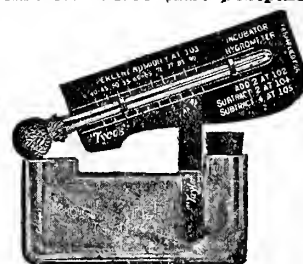
Many persons using Incubators and Brooders fail to understand the importance of having a thoroughly tested and reliable thermometer. Many a fine hatch is lost, and many a fine brood of chicks killed by using a poor thermometer. Use great care in purchasing a perfect thermometer. Our thermometers are thoroughly tested and accurate.

Our Brooder Thermometers are in two styles, half round and flat. Made by Tycos Co. and guaranteed correct. Price of the half round Brooder Thermometers, packed \$1.00, postpaid.

No. 1 all glass Incubator Thermometer. Price \$1.25 postpaid.



Flat Brooder Thermometer
75c Postpaid



Tycos Hygrometer MOISTURE REQUIREMENTS

The amount of moisture required, during the period of incubation, varies from 65 per cent to 53 per cent. For the convenience of our friends and patrons we give the following table of the percentage of moisture best adapted to each week of incubation:

First week there should be about 65 per cent of moisture present;

Second week there should be about 60 per cent of moisture present;

Third week there should be about 55 per cent of moisture present;

At the time of hatching, about 55 per cent of moisture. Price \$2.00, postpaid.



No. 1
All
Glass

FEEDING PANS AND DRINKING FOUNTS

Made of heavily galvanized iron. Best of workmanship. Very sanitary and easily cleaned. Chicks cannot get into them or upset them.

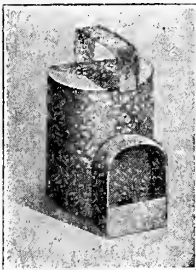
1 qt. size, Wt. 1½ lbs.45c each
2 qt. size, Wt. 1½ lbs.60c each
4 qt. size, Wt. 2 lbs.75c each
6 qt. size, Wt. 2½ lbs.90c each
F. O. B. Los Angeles



FLAT BACK WALL CHICKEN FOUNT

This fount can be used very conveniently for Pigeons, Chickens, Ducks and other poultry. Well made of heavy galvanized iron. To hang on the wall at any convenient height from the ground.

1 qt. size, Weight ½ lb.50c each
2 qt. size, Weight 1 lb.60c each
1 gal. size, Weight 1½ lbs.80c each
6 qt. size, Weight 3 lbs.1.00 each
F. O. B. Los Angeles



1 qt. 40c, Wt. 4 lbs.
2 qt. 50c, Wt. 6 lbs.
1 gal. 65c, Wt. 7½ lbs.
2 gal. \$1.00, " 9½ lbs.

If ordering by mail or express add 25c for packing charges for one or more founts.

F. O. B. Los Angeles

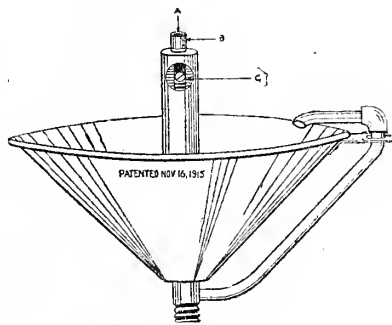


SANITARY STONE FOUNTS

This Star Fount is made especially for baby chicks. So arranged they can not get into the water. Made of tin and will last for years. Best and cheapest fount on the market. Price 20c.



Postpaid 20c
Star Fount

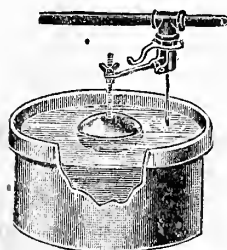


THE AUTOMATIC
WATER FOUNTAIN

THE AUTOMATIC WATER FOUNTAIN

It will refill and stop automatically when the water reaches its proper level. Every fountain guaranteed and replaced if found defective in any way. \$1.75 each. Weight 2½ lbs. F. O. B. Los Angeles.

THE "DANDY" AUTOMATIC FOUNT

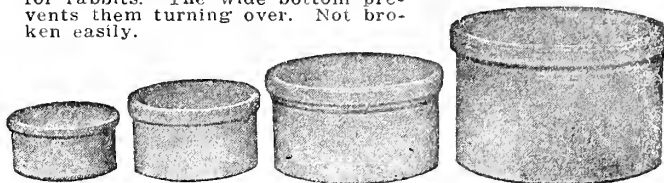


Something poultry raisers have been seeking for years—an automatic fountain that will do the work and keep at it. We have in the "Dandy" a fount made of brass and nickel plated, with a ground valve which fits perfectly, thereby prevents clogging. Can be attached to any pipe same as faucet. Does not corrode or rust. Price, \$1.00 each, f. o. b. here.

Equipped with ½ inch reducer, \$1.25.

RABBIT DRINKING FOUNTAIN

These fountains are made especially strong and durable for rabbits. The wide bottom prevents them turning over. Not broken easily.



Rabbit Drinking Fountains

1 qt. 15c each (per dozen \$1.50). Weight 1 lb. each.
1 qt. 20c (per dozen \$2.00). Weight, 2 lbs. each.
½ gal. 30c each (per dozen \$3.00). Weight 4 lbs. each.
1 gal. 40c each (per dozen \$4.00). Weight 4½ lbs. each.
6 qt. 60c each (per dozen \$6.00).
8 qt. 70c each (per dozen \$7.20). F. O. B. Los Angeles

Rabbit Feeders. These are made of stoneware and glazed with a flanged edge for feeding rolled barley. The flanged edge prevents rabbit from throwing out the grain and wasting it. Comes in white, glazed.



Rabbit Feeders

No. 1, 20c each (1 dozen \$2.00). Weight 1 lb. (each).
No. 2, 25c each (1 dozen \$2.50). Weight 2 lbs. (each).
No. 3, 30c each (1 dozen \$3.00). Weight 2½ lbs. (each).
No. 4, 40c each (1 dozen \$4.00). Weight 4 lbs. (each).

If ordered by mail or express add 25c to order for packing, etc.

PIGEON NESTS



Fills a long-felt want for all squab breeders. Wood gets filthy and vermin laden in a very short time. Iron or earthen-ware is cold and bad for the birds.

Indurated Fibre is lighter than wood, will not warp or break, has a brown finish (not polished), which makes it easy to clean. Impervious to vermin or moisture and is a non-conductor of either heat or cold. A money-saver, and will increase the hatch. Sanitary, handsome, practically indestructible and cheap. Has hole in bottom for screw to hold nest firm and steady. Price 15c each. f. o. b. here.

Devonshire's Earth Salts

Especially for Poultry, Rabbits, Cattle and Horses

Devonshire's Earth Salts increase the milk yield of cows. Devonshire's Earth Salts are assimilated by all living things in the same way as the natural salts in the foods.

Devonshire's Earth Salts. Tuberculosis is due to a shortage of the earth salts in the body.

Devonshire's Earth Salts for stock and poultry are put up in packages of three sizes.

Price, 1 lb. packages, postpaid 60c.

Price, 2½-lb. packages, \$1.15 postpaid.

Price, 10-lb. packages, \$3.50 f. o. b. Los Angeles

Rheumatism is due to an excess of acids in the body. Devonshire's Earth Salts alone enable nature to absorb these acids and invariably cure the disease.

Dyspepsia and all forms of Nervous Disease—The Earth Salts alone create the gastric juice and nourish the nervous system.

WHY DEVONSHIRE EARTH SALTS FOR HUMAN USE?

Because They Supply the Shortage in Your Blood

Devonshire's Earth Salts for human use are the only known means of supplying this shortage. They prevent and cure disease.

Liver and Kidney Troubles, etc., are also due to a lack of the earth salts.

Children. The Rising Generation. Invaluable to promote the healthy growth of children after weaning and during the teething period.

Devonshire Earth Salts are a food and not a medicine. Are absolutely harmless, being a copy of the natural salts found in all foods. Sold in packages for human use. Price in powder form, postpaid 85c; in boxes with 120 capsules, postpaid \$1.10.

We have handled Devonshire's Earth Salts for the past four years, both for Stock and Human food, and it not only has given general satisfaction, but we have many testimonials of remarkable cures to human beings resulting from its use. Therefore we do not hesitate to recommend it.

AGGELER & MUSSER SEED CO.

POULTRY REMEDIES AND FEEDS

Many remedies for poultry have been placed on the market in past years, but we have found Dr. Hess' & Clark's remedies to be the most reliable and to give better satisfaction than any other, and we believe Dr. Hess' Panacea to be the best egg producer and tonic for poultry so far discovered. Try it and you will never be without it.

EGG BOXES AND SHIPPING BOXES



We offer this season the 3 x 4 A. & M. Ideal Egg Box. On account of the high price of paper we are compelled to discontinue the other makes temporarily.

No. Box	Weight	Price
12.....	2 lbs.	\$.35
25.....	4 lbs.	.70
50.....	7 lbs.	1.30
100.....	14 lbs.	2.50
500.....	70 lbs.	12.00
1000.....	140 lbs.	23.00

PARCEL POST AND SHIPPING BOXES

These boxes are made of heavy corrugated paper, three thicknesses, and are especially adapted for parcel post shipping.

1 dozen size.....	25c each	30 egg size.....	50c each
2 dozen size.....	35c each	50 egg size.....	65c each
35 egg size.....	30c each	Postage extra	

BABY CHICK SHIPPING BOXES

25 Chick size.....	\$.50 each
50 Chick size.....	.70 each
100 Chick size.....	1.00 each

Postage extra

WALLACE-EGG BOX

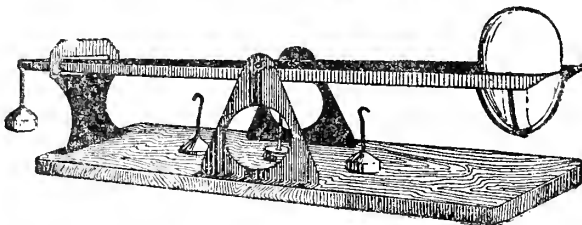
It is the one carrier that will safely deliver the goods, irrespective of jars, jolts, or pressure coming from any angle. When the carrier is packed for shipment you can stand on top, bottom, ends, or sides without its buckling or crushing.

15 egg size, 30c each.

	Price per Doz. Boxes	Wt. per Doz. Boxes
1 Doz. Size.....	\$.25 each	\$ 2.30
2 Doz. Size.....	.35 each	3.60
3 Doz. Size.....	.50 each	4.80
6 Doz. Size.....	1.00 each	10.20
15 Doz. Size.....	1.90 each	21.00

F. O. B. Los Angeles

GILT EDGE EGG SCALE



Is the only Egg Scale made that will give the correct grading within a range of 17 to 30 ounces to the dozen. Standards of eggs as follows: No. 1 Pullet, 20 to 22 oz.; No. 2 Pullet, 19 to 20 oz. Price \$2.00, postpaid \$2.35.

LEG BANDS FOR POULTRY



Spiral Leg Bands are made in six colors and all sizes, and are put on and taken off like a key ring. Can't drop off. Colors are black, white, red, yellow, blue, green, purple, light blue, maroon and pink. In ordering please state color wanted, also name of breed. Leghorn, Rocks, Rhode Island Reds or Turkeys. It enables us to fill the order satisfactorily. Prices:

12 Bands for.....	\$.15 postpaid
25 Bands for.....	.25 postpaid
50 Bands for.....	.50 postpaid
100 Bands for.....	.75 postpaid
500 Bands for.....	3.60 postpaid
1000 Bands for.....	7.00 postpaid

Spiral Band for Chick, Bantam and Pigeon size as follows: 12 for 15c; 25 for 25c; 50 for 40c; 100 for 65c; 500 for \$3.00; 1000 for \$5.25. These bands come in the same colors as given above for Poultry Bands.

SMITH SEALED BANDS

Smith Sealed Bands were put on the market for a purpose. That purpose was to prevent dishonesty in the handling of scored birds and to protect the purchaser of same. Price—(12 for 25c) (25 for 50c) (50 for 85c) (100 for \$1.50) postpaid.

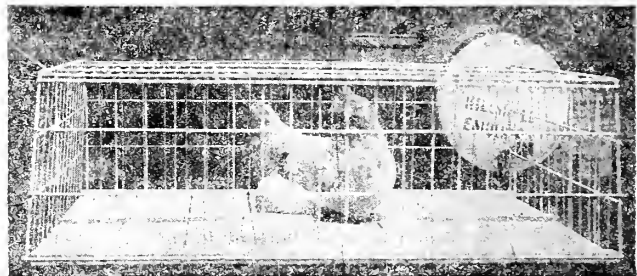


FLAT ALUMINUM LEG BANDS

These bands fit any variety fowls.

Price—(12 for 15c) (25 for 30c) (50 for 50c) (100 for 75c) postpaid.

WIRE SHIPPING COOP



This Coop is made of galvanized steel wire and bars which are electrically welded. It is strictly sanitary, will not rust, has bottom made of seasoned hardwood with cleats on top and on under sides. Bottom can be quickly and securely attached and can be quickly detached for shipping empty. It is built on taper, allowing crates to be telescoped when shipping empty. This coop is very light, weighing only 24 lbs. Is very strong; will last for years. Positively the most durable, economical and satisfactory shipping coop made.

Above is from actual photograph of coop from regular stock and shows great strength and durability. Standard size, 27x41x13 in. high weighs 24 lbs. Price \$4.35 ea Turkey " 27x41x20 in. high weighs 27 lbs. Price \$5.25 ea F. O. B. Los Angeles

POULTRY REMEDIES AND FOODS

Many remedies for poultry have been placed on the market in past years, but we have found Dr. Hess & Clark's remedies to be the most reliable and to give better satisfaction than any other, and we believe Dr. Hess' Panacea to be the best egg producer and tonic for poultry so far discovered. Try it and you will never be without it.

DR. HESS & CLARK REMEDIES

	Retail Each		Retail Each
Dip and Disinfectant,		Poultry Panacea,	
Small.....	\$.60	1 1/2 lb. pkgs.....	.30
Quarts.....	.90	3 lb. pkgs.....	.60
2-quarts.....	1.50	7 lb. pkgs.....	1.25
1 gallon.....	2.25	25 lb. pail.....	3.00
5 gallon can.....	9.50	Roup Remedy (liquid),	
Fly Chaser, 1 qt. size.....	.75	4 oz. cans.....	.25
Fly Chaser, 2 qt. size.....	1.25	Roup Remedy (powder),	
Fly Chaser, 1 gal. size.....	2.00	4 oz. cans.....	.25
Instant Louse Killer,		10 oz. cans.....	.50
1 lb. pkgs.....	.30	White Diarrhea Remedy.....	.25
2 1/2 lb. pkgs.....	.60	White Diarrhea Remedy.....	.50

PRATT FOOD CO. STOCK		AND POULTRY REMEDIES	
Lice Killer (powder).....	\$.30	Red Mite Special 1 qt....	.60
Lice Killer (powder).....	.60	Roup Remedy.....	.30
Lice Killer (liquid),		Roup Remedy.....	.60
Quarts.....	.75	Roup Remedy.....	1.20
1/2 gallons.....	1.35	Sorehead Chicken-Pox	
Gallons.....	2.50	Remedy.....	.35
5-gallon cans.....	10.00	Sorehead Chicken-Pox	
Poultry Regulator.....	.30	Remedy.....	.70
Poultry Regulator.....	.60	Scaly Leg Remedy.....	.35
Poultry Regulator.....	1.20	Scaly Leg Remedy.....	.70
Poultry Regulator.....		White Diarrhea Remedy.....	.30
12 lb. sacks.....	2.00	Worm Powder.....	.60
25 lb. sacks.....	3.00	Worm Powder.....	1.20
50 lb. sacks.....	5.50		
100 lb. sacks.....	10.00		

BARNES REMEDIES		Poultry	
Anti-Diarrhea.....	.50	A & M Lice Paste.....	.25
Anti-Diarrhea.....	1.00	A & M Lice Paste.....	.50
Anti-Slobber.....	.50	Pox Remedy.....	1.00
Anti-Slobber.....	1.00	White Diarrhea Remedy.....	.25
Cold Specific.....	.50	White Diarrhea Remedy.....	.50
Cold Specific.....	1.00	Worm Expulsion.....	.50
Corrective.....	.50	I pint.....	1.00
Corrective.....	1.00	1 quart.....	1.25
Digestive Tablets.....	.50	1 gallon.....	3.00
Hockline.....	.25	5 gallons.....	12.50
Liver Tablets.....	.25		
Rabbit Tonic.....	.50		
Rabbit Tonic.....	1.00	For Rabbits	
Vent Ointment.....	.50	Anti-Canker.....	.50
		Anti-Canker.....	1.00

Thoroughbred Rhode Island Red Eggs, \$2.25 per setting postpaid.

POULTRY INSTRUMENTS CAPONIZING SET

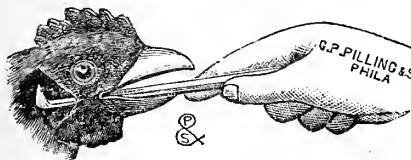
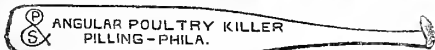
This set is one of the latest design. It is a combination of tools that can be used with one hand and seldom causes the operator to slip and cause the loss of the bird.



We carry the following sets:
Pillings Cornell\$5.00
Pillings Farmer 4.00
Pillings Special 4.50

We suggest that you use either the Cornell or Farmer. They are packed in a fine oak case. Each set contains full instructions.

PILLING ANGULAR KILLING KNIFE



Showing the Angular Killing Knife

By simply turning the wrist the jugular vein and spinal cord are cut, thereby bleeding the fowl, allowing the feathers to be removed without using water. 85c, postpaid.

PILLING FRENCH POULTRY KILLING KNIFE



Every poultry raiser should have one of our Killing Knives. They are made of a finely tempered instrument steel with nicked handle; will last a lifetime. Sent postpaid on receipt of 85 cents. Don't wait! Send for one now! Sent securely packed by mail on receipt of price.



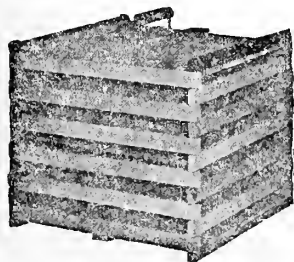
Metal Nest

Single \$1.75; 2 compartment, \$2.50.
Wt. 7 lbs.; 3 compartment \$3.00.
Wt. 9 lbs. F. O. B. Los Angeles.

A. & M. ROOST HANGERS



This hanger made of iron, strong and durable. Has a bowl which you fill with liquid lice killer, thus preventing lice and mites from getting on the roost and then on the bird. You should not be without them. Price 75c postpaid.



CARRIER HUMPTY-DUMPTY EGG

One of the handiest egg carriers on the market. This carrier will hold twelve (12) dozen eggs. Can be folded flat for shipment, and is made of strong but light wooden slats fastened with strong steel wires. Very handy and something every poultryman should have. Price, 95c each, F. O. B. Los Angeles. Weight 6 lbs.

A & M LICE KILLING NEST EGGS

Our Lice Killing Nest Eggs are almost an exact imitation of the real chicken eggs, and contain a powerful disinfectant which is guaranteed to expel lice and vermin. Put up in boxes of one dozen each, at \$1.00 per box. Weight 2 lbs.

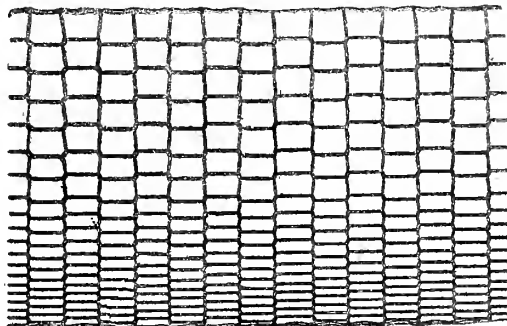


CHINA NEST EGGS

We handle only the best grade of glass eggs, strong and durable. 75c dozen; 85c postpaid.

Warner Junior Poultry Fencing

Warner Junior Poultry Fence is made of No. 18 galvanized wire with No. 14 wire top and bottom, stay wires placed 4 1/4 inches apart. At the bottom of the fence mesh is 1 1/4 inch and gradually widens as the top is reached.



THE WARNER JUNIOR POULTRY FENCE

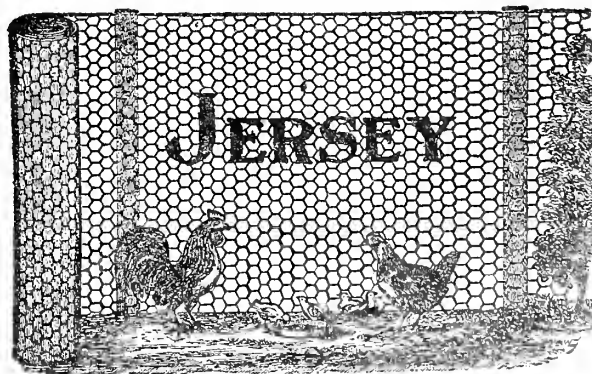
Put up in 10 rod rolls.

	Weight.	f. o. b. here
		Price
3 ft. wide, 33 lbs., per roll.....		\$5.90
4 ft. wide, 36 lbs., per roll.....		6.60
5 ft. wide, 40 lbs., per roll.....		7.50
6 ft. wide, 48 lbs., per roll.....		8.50

Subject to market fluctuations.

Jersey Poultry Fencing

This wire is made of the full 20 gauge hand drawn steel wire galvanized after weaving. Each roll contains 150 running feet.



On account of great changes in Galvanized Wire we are unable to quote prices. But will be pleased to quote you prices on all sizes on application.

We carry the following sizes:

	Wt.	Price		Wt.	Price
1 ft. 2 in. mesh, 10...	\$ 2.95	1	ft. 1 in. mesh, 16...	\$ 4.70	
1 1/2 ft. 2 in. mesh, 16...	2.95	1 1/2	ft. 1 in. mesh, 24...	6.75	
2 ft. 2 in. mesh, 22...	3.90	2	ft. 1 in. mesh, 32...	8.45	
3 ft. 2 in. mesh, 28...	5.00	3	ft. 1 in. mesh, 48...	11.16	
4 ft. 2 in. mesh, 34...	6.75	4	ft. 1 in. mesh, 64...	15.50	
5 ft. 2 in. mesh, 40...	8.40	5	ft. 1 in. mesh, 80...	19.50	
6 ft. 2 in. mesh, 46...	10.15	6	ft. 1 in. mesh, 96...	23.40	

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Mellilotus Indica	63
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Milo Maize	76
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Moss	98
Mushroom	30
Mustard	30

N

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O

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T

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V

Vetch	63
Velvet Beans	63

W

Weeders	100
Weedicator	80
Westroac	61
Wheat	78
Wonder Forage Plant	75
Wire Netting	111

The AGGELER & MUSSER SEED CO.

620 South Spring Street, Los Angeles, Cal., U. S. A.

Please forward the following ORDER for amount enclosed (write your name and address distinctly)

Name

Street _____ P. O. Box _____

Post Office..... R. F. D. No.....

County State.....

Date....., 1921. Forward goods by mail, express, or freight.

Name of Express Office or
Station

Amount Enclosed

P. O. Money Order.....

Cash

Stamps

Total.....\$99.

NOTICE.—We give no warranty, express or implied, as to description, quality, productiveness or any other matter of any seeds or bulbs we send out and we will not be in any way responsible for the crop. If the purchaser does not accept the goods on these terms, they are to be returned at once. Aggeler & Musser Seed Co.

[illegible]

(OVER)

EXTRA ORDER SHEETS AND RETURN ENVELOPES FURNISHED ON REQUEST

NAME OF ARTICLE WANTED

Brought forward

Garden Seeds priced by the packet, ounce, one-fourth pound, one pound and ten pounds are postpaid. Onion Sets, Grass and Field Seeds and Sundry Articles are not postpaid. In ordering one pound lot, add ten cents per pound for postage and packing, and on larger quantities apply parcel post charges.

DOMESTIC PARCEL POST RATES

On Seeds, Plants, Bulbs, Roots, Books, Tools, etc.
within the U. S. and Possessions

	First pound or fraction	Each additional pound or fraction
First Zone, Los Angeles and within 50 miles of Los Angeles.....	5c	1c
Second Zone, within 50 to 150 miles.....	5c	1c
Third Zone, within 150 to 300 miles.....	6c	2c
Fourth Zone, within 300 to 600 miles.....	7c	4c
Fifth Zone, within 600 to 1000 miles.....	8c	6c
Sixth Zone, within 1000 to 1400 miles.....	9c	8c
Seventh Zone, within 1400 to 1800 miles.....	11c	10c
Eighth Zone, all over 1800 miles.....	12c	12c

Please do not ask questions on this Order Sheet, but kindly write them and all communications requiring an answer on a separate sheet of paper and inclose with your order. Be sure that your Full Name and Address are on Both Letter and Order.

This space is for remarks about your order.

620 South Spring Street, Los Angeles, Cal., U. S. A.

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Post Office.....R. F. D. No.....

County State.....

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The following is a calendar for the general planting of vegetables, but, owing to the various soils and climatic conditions, this calendar cannot be applied to every locality, even in Southern California, for which this calendar is intended.

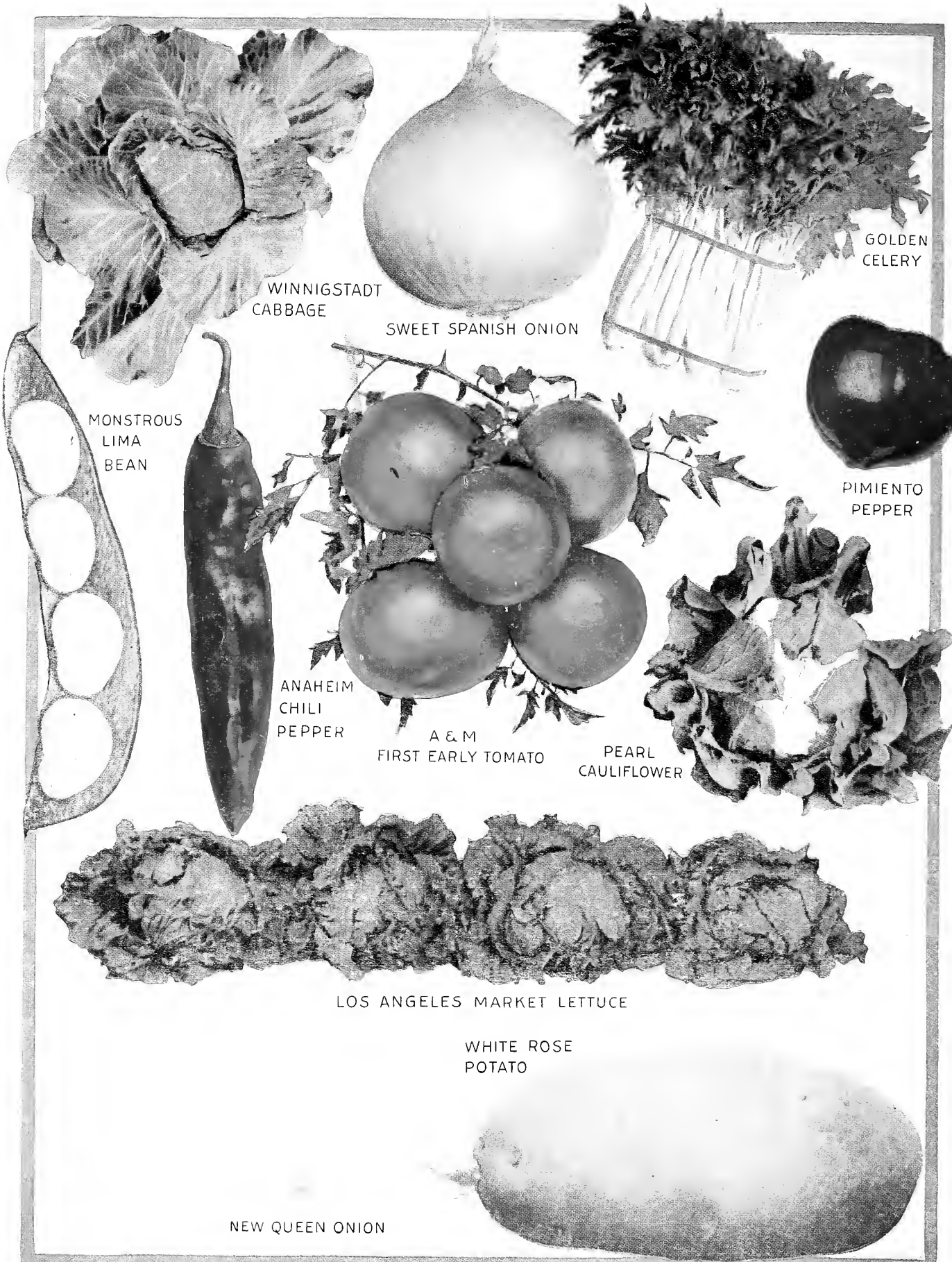
JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCTOBER	NOVEMBER	DECEMBER
Asparagus Beans Beets Brussels Cabbage Carrots Chervil Chicory Corn Salad Cress Egg Plant Horseradish Kale Kohl Rabi Lettuce Mustard Onions Parsley Peas Peppers Potatoes Radish Rhubarb Salsify Spinach Winter Turnip	Asparagus Beets Beans Brussels Cabbage Carrots Chervil Chicory Corn Salad Cress Egg Plant Horseradish Kale Kohl Rabi Lettuce Mustard Onions Parsley Peas Peppers Potatoes Radish Rhubarb Salsify Spinach Summer Turnips	Artichoke Asparagus Beets Brussels Cabbage Carrots Chervil Chicory Corn, Sweet Cucumbers Egg Plant Kale Lettuce Melons, Musk and Field Okra Onions Parsley Peas Peppers Potatoes Pumpkin Rhubarb Salsify Spinach Summer Tomato	Artichoke, Seed Asparagus Cabbage Beans Beets Carrots Chicory Chives Corn, Sweet and Field Cucumbers Egg Plant Kale Lettuce Melons, Musk and Water Okra Parsley Peas Peppers Potatoes Pumpkin Rhubarb Salsify Spinach Summer Squash	Artichoke, Seed Asparagus Cabbage Beans Beets Carrots Chicory Chives Corn, Sweet and Field Cucumbers Egg Plant Kale Lettuce Melons, Musk and Casabas Okra Parsley Peas Peppers Potatoes Pumpkin Rhubarb Salsify Spinach Summer Squash	Artichoke, Seed Beets Brussels Cabbage Carrots Chicory Chives Corn, Sweet and Field Cucumbers Egg Plant Kale Lettuce Melons, Musk and Water Okra Parsley Peas Peppers Potatoes Pumpkin Rhubarb Salsify Spinach Summer Tomatoes	Beets Beans Cabbage Carrots Cauliflower Cucumbers Egg Plant Kale Kohl Rabi Lettuce Melons, Okra Onion Sets Parsley Peas Peppers Potatoes Pumpkin Radish Squash Tomatoes	Artichoke, Seed Beans Brussels Early Varieties Cabbage Carrots Cauliflower Chicory Chives Cress Cucumbers Egg Plant Endive Kale Kohl Rabi Lettuce Mustard Onion Parsley Peas Peppers Potatoes Pumpkin Radish Salsify Spinach Summer Turnip	Artichoke Beets Beans Brussels Cabbage Carrots Cauliflower Chicory Chives Cress Egg Plant Endive Kale Kohl Rabi Lettuce Mustard Onion Parsley Peas Peppers Potatoes Pumpkin Radish Salsify Spinach Summer Turnips	Beets Beans Brussels Cabbage Carrots Cauliflower Chicory Chives Cress Egg Plant Garlic Kohl Rabi Lettuce Mustard Onion Parsley Peas Peppers Potatoes Pumpkin Radish Salsify Spinach Summer Turnip	Artichoke, Plants Asparagus, Beets Brussels Cabbage Carrots Cauliflower Chicory Chives Cress Egg Plant Garlic Kohl Rabi Lettuce Mustard Onion Parsley Peas Peppers Potatoes Rhubarb, Roots Salsify Spinach, Winter Turnip	

*Plant in frostless sections only
†Plant seed in hot bed.
‡Plant both seed and plants

(Plant in low, heavy land.
in the Colorado Desert.

Calendar for Planting Flowers

JANUARY Sow Seed	FEBRUARY Sow Seed	MARCH Sow Seed	APRIL Sow Seed	MAY Sow Seed	JUNE Sow Seed
Antirrhinum Centaurea Calliopsis Celosia Chrysanthemum Salvia Sweet Peas Transplant Carnation Petunia Pansy Stocks Shasta Daisy Verbena Bulbs Anemones Cannas Callas Dahlia Easter Lilies Gladiolus Narcissus Ranunculus	Antirrhinum Asters Calliopsis Celosia Chrysanthemum Salvia Sweet Peas Transplant Carnation Petunia Pansy Stocks Shasta Daisy Verbena Bulbs Callas Cannas Dahlia Gladiolus Tuberose	Asters Balsam Centaurea Dianthus Marigold Nasturtium Snap-Dragon Sweet Peas Zinnia Transplant Asters Celosia Centaurea Calliopsis Salvia Shasta Daisy Verbena Bulbs Callas Cannas Dahlia Gladiolus Tuberose	Ageratum Balsam Cosmos Centaurea Coreopsis Celosia Daisies Nasturtium Poppies Snap-Dragon Zinnia Transplant Asters Antirrhinum Centaurea Calliopsis Chrysanthemum Celosia Salvia Bulbs Amaryllis Cannas Dahlia Gladiolus Tuberose	Carnation Cosmos Coreopsis Candytuft Centaurea Daisies Digitalis Forget-me-not Gillardia Marigold Nasturtium Phlox Petunia Poppies Salpiglossis Scabiosa Transplant Asters Antirrhinum Balsam Centaurea Dianthus Marigold Snap-Dragon Zinnia Bulbs Amaryllis Cannas Dahlia Gladiolus Tuberose	Carnation Cosmos Coreopsis Candytuft Cineraria Centaurea Digitalis Daisies Forget-me-not Gillardia Marigold Phlox Petunia Poppies Salpiglossis Transplant Ageratum Balsam Carnation Cosmos Centaurea Coreopsis Celosia Daisies Hollyhock Snap-Dragon Violets Zinnia Bulbs Cannas Gladiolus
JULY Sow Seed	AUGUST Sow Seed	SEPTEMBER Sow Seed	OCTOBER Sow Seed	NOVEMBER Sow Seed	DECEMBER Sow Seed
Antirrhinum Canterbury Bells Centaurea Cosmos Lobelia Pansies Stocks Transplant Carnation Cosmos Coreopsis Candytuft Centaurea Daisies Digitalis Forget-me-not Gillardia Marigold Phlox Petunia Salpiglossis Scabiosa Violets	Columbine Calendula Canterbury Bells Cosmos Lobelia Pansies Finks Primula Petunia Verbena Transplant Carnation Cosmos Coreopsis Candytuft Cineraria Centaurea Digitalis Gillardia Marigold Phlox Petunia Salpiglossis Scabiosa Violets	Carnation Columbine Calendula Candytuft Forget-me-not Larkspur Pansies Stocks Sweet Peas, Xmas. Transplant Antirrhinum Canterbury Bells Centaurea Cosmos Lobelia Pansies Stocks Violets Bulbs Callas Freesias Iris Climbing Vines Austral Pea Vine Cobea Scandens Kudzu Vine Moon Flower Morning Glory Passion Flower Smilax Virginia Creeper	Coreopsis Centaurea Cineraria Forget-me-not Larkspur Pansies Stocks Sweet Peas Transplant Cineraria Columbine Calendula Candytuft Forget-me-not Pansies Stocks Bulbs Anemones Callas Easter Lilies Freesias Hyacinths Iris Narcissus Ranunculus Tulip	Carnation Centaurea Larkspur Pansies Sweet Peas Stocks Transplant Carnation Columbine Calendula Candytuft Forget-me-not Pansies Stocks Bulbs Anemones Callas Easter Lilies Freesias Hyacinths Iris Narcissus Ranunculus Tulips Mignonette may be sown all the year around.	Sweet Peas Transplant Coreopsis Centaurea Cineraria Larkspur Pansies Stocks Bulbs Anemones Callas Cannas Easter Lilies Freesias Hyacinth Iris Narcissus Ranunculus Tulip Border Plants Alyssum Ageratum Begonias Coleus Geranium Shasta Daisy Verbena



WINNIGSTADT
CABBAGE

SWEET SPANISH ONION

GOLDEN
CELERY

MONSTROUS
LIMA
BEAN

ANAHEIM
CHILI
PEPPER

PIMIENTO
PEPPER

A & M
FIRST EARLY TOMATO

PEARL
CAULIFLOWER

LOS ANGELES MARKET LETTUCE

WHITE ROSE
POTATO

NEW QUEEN ONION